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THE
EXTRA PHARMACOPŒIA

MARTINDALE
AND
WESTCOTT

SEVENTH EDITION
1892

Zd. 50 ××

THE

EXTRA PHARMACOPŒIA

BY

WILLIAM MARTINDALE, F.C.S.
Late Examiner of the Pharmaceutical Society, and
Late Teacher of Pharmacy and Demonstrator of Materia Medica at
University College

MEDICAL REFERENCES
AND A
THERAPEUTIC INDEX OF DISEASES AND SYMPTOMS
BY

W. WYNN WESTCOTT, M.B. LOND.
DEPUTY-CORONER FOR CENTRAL MIDDLESEX

SEVENTH EDITION

LONDON
H. K. LEWIS, 136 GOWER STREET, W.C.
1892

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PREFACE TO THE SEVENTH EDITION.

In producing another Edition of the "Extra Pharmacopœia" we have continued to incorporate with it an epitome of the recent literature of Pharmacy and Therapeutics, after having in many cases personally tested the information. During the epoch of the two years since the issue of the last edition the progress of Pharmacology has continued to follow that of Modern Chemistry by utilizing principally the derivatives of Coal Tar and various Alcohols. A deviation has been made by the use of pure morbific cultures as an antidote to the parent bacillary cause of certain diseases, but so far with very limited success; Tuberculosis has thus been treated hypodermically by the prepared lymphs—Tuberculin and Tuberculocidin, as well as by methods of endeavouring to rid the animal organism of the infective bacilli by chemical antidotes. For this purpose Cantharidate of Potassium, Chloride of Zinc, Eucalyptol, Creasote, Guaiacol, and Benzosol have been employed.

A number of new synthetic compounds have been brought into use; many have had but an ephemeral reputation, yet these and other additions have required upwards of 300 new entries in the index. We have at the same time condensed and deleted many references so as to keep the work portable. The chemical researches on Salicylic Acid and its new compounds, on the Aconite Alkaloids, and on Chloroform have been summarised; as have also the further investigations on the Mydriatic Alkaloids, particularly Hyoscine, Hyoscyamine, Scopolamine, Gelsemine, and Cocaine, as well as those on Mercuro-Zinc Cyanide and Eucalyptus Oils. As general Anæsthetics, Pental (Amylene) and Bromide of Ethyl are competitors with Chloroform and Ether, while for local Anæsthesia, Chloride of Ethyl competes with Cocaine and Chloride of Methyl, especially for dental purposes. Of Antiseptics, a number have been introduced, having a more or less specialty character, but none have arrested particular attention. As Antipyretics and Analgesics, Salophen, Salicylamide, Analgene, Iodopyrin, Salipyrin, Phenocoll, and Euphorin have been brought into notice. In urinary diseases, Piperazine has been used as a solvent for urates, and Jambul against glycosuria; the use of Nitroglycerine has been extended in heart affections, and that of Oxygen for pneumonia. For skin diseases several new formula are given for ointments, pastes, plasters, and salve mulls, also Camphoid as a substitute for Collodion. The use of Cornutine for hæmorrhage, of Apocodeine as an expectorant, and of the Bromides of Ethylene and of Strontium for epilepsy are noted; as also are the uses of new preparations of Cubebs, Condurango, Jalap, Male Fern, Areca Nut, and Upas Poison. The compatibility of Nitrate of Cocaine with Nitrate of Silver is referred to. Attention is likewise drawn to several improved preparations of Iron and of Mercury. An abstract is given of the Additions to the British Pharmacopœia, 1890, of the more important alterations in the Pharmacopœa Germanica, III., and likewise those of Guy's Hospital Pharmacopœia, recently issued.

Our best thanks are due to several correspondents for their suggestions.

WM. MARTINDALE.
10, New Cavendish Street, W.
W. WYNN WESTCOTT, M.B.Lond.
396, Camden Road, N.
July 1st, 1892.

PREFACE TO THE SIXTH EDITION.

In issuing this Edition of the "Extra Pharmacopœia" (36th Thousand), we have again to record the important progress which has been made in the therapeutic treatment of disease. At present the current of Pharmacology seems to be following the course of Modern Chemistry through the intricacies of the endless series of derivatives obtained from Coal Tar and various Alcohols. From these sources, with the aid of the advances made by Chemical Science in producing substitution compounds, an attempt is being made to found a system of Rational Therapeutics. The pursuit in this direction has been so largely developed that there has been a tendency to set aside the progress which had formerly been made empirically, in the employment of pure inorganic salts and definite chemical principles obtained from the vegetable kingdom. Thus we find that, although during the last two years the price of both Quinine and Morphine—the two mainstays of the Medical Practitioner of twenty years ago—has been unprecedentedly low, yet, so far as English Therapeutics is concerned, their use has been at a discount. Their place in medical treatment is in a great measure filled by Antipyrine, Antifebrin, Phenacetin, Exalgin, and Salicylate of Sodium, on the one hand, and by Sulphonal, Tetronal, Chloral, Paraldehyde, Metaldehyde, Chloralamide, Methylal, Amylene Hydrate, and Urethane, on the other. We therefore give many abstracts of the therapeutic uses and the pharmacy of these chemical compounds, and of many of their allied products, such as Salol, Cresalol, Di-thiosalicylate of Sodium, Phenylacetic, Phenylpropionic, and Trichloracetic Acids; Ural, Somnal, Benzanilide, Monobrom-Acetanilide, Hydracetin, Methacetin, and Orexine Hydrochlorate; also of Curarine, Cannabine, Ergotinine Citrate, Anthrarobin, Creolin, Thiol, Thio-Resorcin, Sozoiodol, Myrtol, Safrol, Bromoform, Isobutyl Nitrite, Potassium Cobalto-Nitrite, Rubidium-Ammonium Bromide, Gold Bromide and Mercuro-Zinc Cyanide. The Therapeutical References and Index have been much extended; the pharmacy of Chian Turpentine improved, a pill of Phosphorus in combination with Nux Vomica, and several other formulæ for Pills and Hypodermic Injections of new Mercurial compounds in Vaseline Oil have been added. The additional Unofficial Formulæ of the British Pharmaceutical Conference have been inserted, including Acetic Syrup of Ipecacuanha, Elixir of Senna, improved Chloroform preparations of Aconite and Belladonna, and the Hypophosphite Syrups. Notes on the latest information on the Anæsthetic use of Chloroform, on Chloride of Methyl, and on the Mydriatic Alkaloids, have been collated.

* * * *

In conclusion, we hold that the art of pharmacy should tend towards making medicines palatable, but not at the expense of their efficacy. They should be combined extemporaneously to suit the disease; the reverse method should be avoided, in which the patient is treated by ready-made compounds prepared to suit imaginary cases, as is too much the tendency of the present day.

March, 1890.

INTRODUCTION.

Herein medicines are viewed from a pharmaceutical and medical aspect; references to their use, with the doses employed, are given in *précis*. The area of selection is limited by personal experience. Modern official drugs are still noticed, and older ones are introduced when unofficial preparations of them are in use, or their preparations have undergone alteration. In the Secondary List of drugs will be found those to which medical attention has been more or less directed, but which have not come into general use. The Index forms a copious Posological Table. The pharmacopœial doses for official drugs, except in one or two cases, have been adhered to; the other doses are based on personal experience, or are culled from the best authorities. The terms *Drachm* and *Ounce*, when applied to liquids, are understood to be the Fluid Drachm and Fluid Ounce respectively, as defined by the British Pharmacopœia. Except in some instances of foreign formulæ where liquids are ordered to be weighed, when parts are referred to, it is to be understood that ounces and fluid ounces, grains and grain-measures, or grammes and cubic centimetres, respectively, are to be employed. In regard to the formulæ for hypodermic injections and several others, as a minim is not equal to a grain-measure, and as hypodermic syringes and dispensing measures are graduated in minims, for practical purposes the use of "parts" is generally avoided when referring to these small quantities. They are therefore ordered in grains and minims or ounces (*i.e.* fluid ounces); thus Injectio Morphinæ Hypodermica contains 1 grain of Acetate of Morphine in 10 minims. Exceptions to this rule are clearly indicated.

Percentage solutions are sometimes mentioned, by which it is intended that 100 grain-measures of the finished solution shall contain *n* grains of the substance, like a volumetric solution; *e.g.* a 50 per cent. solution of Hydrochlorate of Cocaine will contain 50 grains in 100 grain-measures, and will dilute with an equal volume of liquid to form a 25 per cent. solution.

METRICAL WEIGHTS AND MEASURES AND THEIR BRITISH EQUIVALENTS.

1 Gramme ... ... = 15·432 grains.
1 Centigramme ... ... = between $\frac{1}{6}$ and $\frac{1}{7}$ grain.
1 Milligramme... ... . = about $\frac{1}{65}$ grain.
1 Litre ... ... = 35·2754 fluid ounces.
1 Cubic Centimètre (1 c. c. = Millilitre) ... ... = 17 minims (nearly).
1 Mètre ... ... = 39·37079 inches.

The Gramme has its decimal multiples—Decagramme, Hectogramme, and Kilogramme; and divisions—Decigramme, Centigramme, and Milligramme. The Litre and Mètre have their corresponding decimal divisions—Decilitre, Centilitre, and Millilitre,—and Decimètre, Centimètre, and Millimètre.

In Continental states, where this system is now generally adopted for the dispensing and preparing of medicines, all liquids are weighed, and the terms Gramme, Centigramme, and Kilogramme only are used. This avoids the possibility of errors, which the similarity of the names Decagramme and Decigramme might lead to.

In Germany the quantities of the ingredients in prescriptions are written in decimal proportions, the gramme being understood to be the unit; the name of the integer is generally not mentioned, thus:

Rhubarb 35· means 35 grammes of Rhubarb.
,, ·035 ,, 35 milligrammes ,,

The adoption in British Pharmacy of the metric weights and *measures* is still a desideratum; both are required, as where despatch has to be considered in dispensing liquids, they can be more accurately measured than weighed.

ABBREVIATIONS.

When the reference is to a periodical, the number put first is the number of the volume; then follow the last two figures of the year, and the last number refers to the page.

B.—Bartholow, R., A Practical Treatise of Materia Medica and Therapeutics.
B.M.J.—British Medical Journal.
B.M.J.E.—British Medical Journal Epitome of Current Medical Literature.
B.P.C.—Unofficial Formulary, British Pharmaceutical Conference.—See p. 426.
Br.—Braithwaite, W. & J., Retrospect of Medicine.
Brunton.—Text-Book of Pharmacology, Therapeutics, and Materia Medica, by T. Lauder Brunton, M.D.
B.S.H.—Pharmacopœia of the British Hospital for Diseases of the Skin.
C. and D.—Chemist and Druggist.
Chem. News.—Chemical News.
Codex.—Pharmacopée Française.
Ed. M.J.—Edinburgh Medical Journal.
G.—The Essentials of Materia Medica and Therapeutics, by Sir A. B. Garrod, M.D., and N. J. C. Tirard, M.D.
G.H.—Pharmacopœia of Guy's Hospital.
L.—The Lancet.
L.H.—Pharmacopœia of the London Hospital.
M.C.—Medical Chronicle, Manchester.
M.P.C.—The Medical Press and Circular.
M.R.—The London Medical Record.
M.T.G.—The Medical Times and Gazette.
N.R.—New Remedies—New York.
Off.—*Official*—in the British Pharmacopœia.
P.G. III.—Pharmacopœa Germanica, editio III.
P.J.—Pharmaceutical Journal.
P.L.—Pharmacopœia Londinensis, 1851.
P.M.J.—Provincial Medical Journal.

Pr.—The Practitioner.
R.—Handbook of Therapeutics, by Sydney Ringer, M.D.
R.O.H.—Pharmacopœia of the Royal London Ophthalmic Hospital.
T.H.—Pharmacopœia of the Hospital for Diseases of the Throat.
Th.Gaz.—Therapeutic Gazette, Philadelphia.
U.C.H.—Pharmacopœia of the University College Hospital.
U.S.—Pharmacopœia of the United States.
Y.B.—The Year-Book of Treatment.

Additions made in 1890

TO THE

BRITISH PHARMACOPŒIA

OF 1885.

Acetanilidum.
Acetum Ipecacuanhæ.
Adeps Lanæ.
Adeps Lanæ Hydrosus.
'Antifebrin.'
'Antipyrine.'
'Blaud's Pill.'
Emplastrum Menthol.
Eucalypti Gummi.
Euonymi Cortex.
'Euonymin.'
Extractum Euonymi Siccum.
Extractum Hamamelidis Liquidum.
Extractum Hydrastis Liquidum.
'Fehling's Solution.'
Gelatinum.
Glonoin, Solution of.
Glusidum.
Hamamelidis Cortex.
Hamamelidis Folia.
Homatropinæ Hydrobromas.
'Huile de Cade.'
Hydrastis Rhizoma.
'Lanoline.'
Liquor Cocainæ Hydrochloratis.
Liquor Morphinæ Sulphatis.
Liquor Trinitrini.
Magnesii Sulphas Effervescens.
Mistura Olei Ricini.
Nitroglycerine, Solution of.
Oleum Cadinum.
Paraldehydum.
Phenacetinum.
Phenazonum.
Picrotoxinum.
Pilula Ferri.
Pulvis Sodæ Tartaratæ Effervescens.
'Saccharin.'
'Seidlitz Powder.'
Sodii Benzoas.
Sodii Nitris.
Sodii Phosphas Effervescens.
Sodii Sulphas Effervescens.
Solution of Potassio-Cupric Tartrate.
Stramonii Folia.
Strophanthus.
Sulphonal.
Suppositoria Glycerini.
Syrupus Ferri Subchloridi.
Tinctura Hamamelidis.
Tinctura Hydrastis.
Tinctura Strophanthi.
Trochisci Sulphuris.
Unguentum Conii.
Unguentum Hamamelidis.

ABRUS.

Jequirity Seeds. — *Syn.* PRAYER BEADS; JUMBLE BEADS; GUMCHI (*Hindi*); INDIAN LIQUORICE.

These seeds, the produce of *Abrus precatorius*, of a scarlet colour, with a black patch round the hilum, hard and difficult to powder, are innocuous when eaten, but poisonous when placed in wounds or under the skin of animals. An infusion of Jequirity is used to produce purulent ophthalmia for the cure of granular lids.—Ophth. Rev.i./83,19 *ex* Annales d'Oculistique ii./82,42; L. ii./83,120,600,742; B.M.J. ii./83,1015. Two proteids *paraglobulin* and *a-phytalbuminose*, have been isolated from Abrus seeds. The latter is identical with papain. The so-called *Abrin* is a mixture.—P.J. 1887,234, *ex* Proc. Roy. Soc., May, 1887. Official report on, B.M.J. ii./89,184; Th. Gaz., 1890, 282,548; P.J. 1889,197.

Albuminous constituent 100 times as poisonous as strychnine, but loses its activity when boiled.—Ed. M.J. 1890,1080.

Poisoning by eating Jequirity seeds, cramps with vomiting and purging.—L. ii./91,1205.

Infusum Abri, R.O.H. — Jequirity seeds in powder 2, water at 120° F., 25; decant when cold.

The ophthalmia is probably caused by a pepsin-like ferment, and not by the bacilli.—B.M.J. i./84,476,564.

Epithelioma, lupoid growths, and sloughy ulcers cured by the inflammation produced by infusion.—L. ii./84,32.

Ulcers of the cornea, when asthenic are improved by weak infusions.—Th. Gaz. 1887,641.

ACIDUM BENZOICUM.

Benzoic Acid (*Off.*).—*Syn.* BENZOYL HYDRATE.

Dose.—3 to 15 grains, or more.

Soluble 1 in 220 of cold water; very soluble in alcohol, fats, oils, and alkaline solutions (forming benzoates). It prevents fats becoming rancid, as in adeps benzoatus.—B.P.

It is said to possess antipyretic properties, and as an antiseptic to be even more powerful than carbolic or salicylic acid.—M.T.G. ii./73,488; P.J. 1875,307.

Four grains of Benzoic Acid with 1 grain of Canada balsam, or 1 minim of glycerine, make a good pill, but it is more frequently administered in solution, as a benzoate.

A saturated aqueous solution, or a solution in spirit or eau de Cologne (about 1 in 40), is very serviceable in relieving urticaria.—R.

A one in 20 solution in rectified spirit, and this diluted with water as required, may be used as an antiseptic solution or lotion. Applied as a dry antiseptic, its dust is irritating to the nostrils of patients and attendants.

Trochisci Acidi Benzoici (*Off.*).

Contain ½ grain in each, with plain sugar; those of T.H. have a red currant basis. Useful as a voice lozenge.

Ammonii Benzoas (*Off.*). *Dose.*—10 to 20 grains.

In colourless laminar crystals; soluble 1 in 5 of cold water, and 1 in 12 of rectified spirit.

Sodii Benzoas (*Off.*).

Dose.—"10 to 30 grains"; in phthisis, 1 to 4 drachms.

In white granular crystals; soluble 1 in 2 of cold water.

Benzoic Acid and the benzoates have been used in the treatment of phthisis and various febrile diseases, given in large doses, as a germicide to the fever poison.

Benzoate of sodium in distilled water, 5 per cent. solution, is recommended for use as a spray for inhalation in phthisis, &c., to be used to the extent of 7 to 15 drachms daily for an adult, or 15 grains taken 5 to 10 times a day in milk, and continued for several months.—L. ii./79,886; B.M.J. ii./79,982; M.T.G. ii./79,585; Pr. xxiii.415; B.M.J. ii./82,125.

In diphtheria, 2 to 4 drachms daily, with 10 per cent. solution, as a spray inhalation.—Pr. xxiii.453; Pr. xxiv. 128,131.

Benzoate of sodium as an antipyretic. *Dose.*—2 to 4 drachms.—Pr. xxiii.217.

Successful in the treatment of rheumatic polyarthritis where salicylates fail; in dose up to 4 drachms daily.—Pr. xxv. 218.

Use in whooping-cough, scarlet fever, and diphtheria. —M.R. 1880,315.

Editorial notes on therapeutic use in phthisis, &c.—M.T.G. i./79,596; B.M.J. i./80,28,72.

In uræmia is given with success, albun it inhibits the formation of urea, one to day, given hourly.—B.M.J. i/88,90; Th. G

Diphtheria and tonsillitis are relieved by use.—Th. Gaz. 1888,265.

On the dog, a powerful hepatic stimulant, b intestinal stimulant; likely to prove useful in c of the liver, jaundice, &c.—B.M.J. i./79,69.

In the treatment of acute rheumatism, doses of 20 grains every 2 or 3 hours were successful in 5 c Should be continued in diminished doses for 24 or hours after the rheumatic symptoms have disappeared. B.M.J. i./81,336.

Being tasteless, innocuous, and a powerful antiseptic, is suggested as the best preservative of milk, &c.—Chem. News, i./86,130.

Calcii Hippuras, Hippurate of Calcium.

Dose.—5 to 20 grains.

In shining white crystals, soluble about 1 in 27 of water.

Lithii Hippuras—See p. 262.

Sodii Hippuras, Hippurate of Sodium.

Dose.—5 to 30 grains.

Is met with in commerce as a readily soluble white amorphous powder. Both it and the benzoate are recommended in gout, gravel, and calculus, as solvents for urates, an alkaline citrate being added if the urine of the patient be abnormally acid; hippuric acid salts reaction urates in solution, and in time no trace of uric acid can be detected. Unlike the other organic salts of alkalies in which the acid radicle is decomposed by passing through the system, when taken, Benzoates and Hippurates are found in the urine as Hippurates.—L. i./83,487,579,669.

ACIDUM BORICUM.

Boric Acid (*Off.*).—*Syn.* Boracic Acid.

Dose.—5 to 30 grains, or more.

In white, pearly, laminar crystals, unctuous to the touch, without odour; has a bitterish, cooling, not acid taste. Obtained for medical purposes from borax, by the action of sulphuric acid. Soluble 1 in 26 of cold an er, 1 in 3 of boiling water, 1 in 22 of rectified spirit, cy n 5 of glycerine at 32° F., 7 in 10 at 212° F., slightly luble in volatile oils. May be made into pills with ycerine of tragacanth, or with a fifth of its weight of ream of tartar and water.

It possesses mild antiseptic and antiputrefactive properties, but is not destructive to all low organic growths, *e.g.*, mould fungus.

Equal parts of boric acid and borax form a compound equally antiseptic and more soluble.—P.J. 1890,346; M.C. Nov. 1891,107; Th. Gaz. 1891,745.

Glycerinum Acidi Borici, 1 in 5

Gossypium Acidi Borici, T.H.—See p. 214.

Linteum Acidi Borici.

Lint impregnated with half its weight of Boric Acid, and coloured pink.

Lotio Acidi Borici.

Boric Acid, 1; hot water, 20. Dissolve, and when cold use the clear solution.—L. i./75,603.

Pastillus Acidi Borici, T.H. See p. 211.

Useful in aphthous affections of the mouth and throat.

Pessus Acidi Borici.

Ten grains in each, with oil of theobroma.

Convenient to replace douches after delivery.—B.M.J. ii./91,577.

Pulvis Acidi Borici Compositus, G.H.

Boric Acid 1, Oxide of Zinc 3, Starch 6. For external application.

Styles of Boric Acid for the lachrymal sac and duct are prepared two inches long.

Suppositorium Acidi Borici.

Three grains in each. Useful in pruritus.

Unguentum Acidi Borici (*Off.*).

Boric Acid, in fine powder, 1, Soft Paraffin 4, Hard Paraffin 2. Melt the paraffins together, sift the Boric Acid into the liquid, and stir till cold. This ointment contains one part of acid in seven parts. It is slightly weaker, but of the same consistency as the ointment No. 2 (see below) which it is intended officially to represent.

Unguentum Acidi Borici (Sir Joseph Lister).

White Wax 1, Paraffin 2, Almond Oil 2; melt, and add in fine powder Boric Acid, warmed, 1; mix, and stir till it thickens. Set aside, and when solid reduce by rubbing in successive portions to an uniform smooth ointment.—L. i./75,787.

Unguentum Acidi Borici (Martindale).

	No. 1.	No. 2.	No. 3.
Paraffin (135° or 140°) ...	5 ...	5 ...	5
Vaseline	5 ...	10 ...	15
Boric Acid, in fine powder ...	2 ...	3 ...	4

Melt the paraffin and vaseline together; sift the Boric Acid into the liquid, and stir constantly till cold. These three ointments contain the same quantity of Boric Acid, or 1 to 5 of basis; they are also made **half** and **quarter strength**, *i.e.*, 1 of the acid to 11 and 1 to 23 of basis respectively. The ointment of full strength is used where cavities exist; the others to superficial wounds which it is desired to heal rapidly.

Boric Acid ointment is applied to surface wounds, burns, eczema, and other sores, as an antiseptic dressing and "healing ointment." On removal, it should leave the wound "clean"—it should adhere to the material on which it is spread, not so much to the sore. It is applied more like a plaster than an ointment. The hard ointment of Sir Joseph Lister is not now much in request. The No. 2 ointment, spread on lint or rag, is most suitable for general use, except in the summer, when it is sometimes too soft. No. 1 should then be used, and for smearing on No. 2 is sometimes too hard, when No. 3 should be used. It is very useful in pruritus ani et pudendi. Boric Acid ointment is also very serviceable as a dressing in the minor surgery on shipboard, steamers particularly. For hot climates, Lister's or No. 1 should be used.

Boric Acid was the basis of two Swedish nostrums—Aseptin, a powder, and Aseptin Amykos, a liquid, used in the preservation of articles of food and as an application to wounds. Boric Acid is also used for the preservation of milk; preferably mixed with an equal quantity of borax (see p. 4). It is mild, and perfectly unirritating; even mechanically, the crystals do not irritate the skin, mucous membrane, wounds, ulcers, or granulating sores. Its powder, mixed with starch, forms a useful "dusting powder" for infants, &c. It checks the fœtor of perspiration. A little Boric Acid powder sprinkled in the socks or stockings prevents the disagreeable odour of sweating feet. The ointment is used as above described. The lotion and lint are useful in ulcers of the legs and elsewhere. A piece of protective oiled silk, sufficient to cover the sore exactly, is dipped in the boric lotion and first applied, and over this a piece of boric lint, also soaked in the lotion, large enough to extend an inch beyond the protective, is kept *in situ* with a bandage. Boric Acid and Borax with glycerine or honey form valuable applications for aphthæ and stomatitis. Glycerine of Boric Acid is useful for tender corns, and the powdered acid wards off fleas, flies, cockroaches, &c.

Salve Mulls are spread with **Boric Acid**—on one or both sides, containing 10 grammes in ⅛ square metre (see p. 422).

Description and antiseptic uses of Boric Acid lotion, lint, and ointment.—L. i./75,603,717,787.

As an ordinary dressing for wounds, either as lotion, lint, or ointment, it is an antiseptic that neither irritates nor inflames.—L. i./76,734; B.M.J. ii./77,411.

As ointment with lanoline useful in children's eczema. If much induration, ½ to 1 per cent. of Salicylic Acid added.—B.M.J. ii./88,896.

As a cerate, 10 grains to an ounce for tinea tarsi, and as an eye lotion is very useful in purulent ophthalmia and conjunctival congestion.—Pr. xxv.56.

Given in 10-grain doses internally to sterilize the urine before operations on the urethra.—Y.B. 1888, 206; B.M.J. i./88,1165.

Boroglyceride.

A patented preparation, made by heating 92 parts of glycerine with 62 parts of Boric Acid. A tough, deliquescent mass is produced, readily soluble in water and alcohol. It is recommended as a powerful antiseptic and preservative of meat, fish, milk, and other food—1 in 40 of water is used. It is also used as a surgical dressing, and given internally in aqueous solution, or in pills combined with althæa.

Use in the treatment of wounds.—L. i./82,774,937; L. ii./82,841; and in purulent ophthalmia.—L. i./83,273. For otorrhœa.—Pr. xxxiii.47.

Liquor Magnesii Boratis.

Carbonate of Magnesium 233, Boric Acid 1550, boiling water 7500. Contains Boric Acid about 1 in 6. Is said to be the composition of **Antifungin.** Is recommended as a paint for diphtheria.—B.M.J. ii/87,526.

ACIDUM CARBOLICUM.

Carbolic Acid (*Off.*).—*Syn.* PHENIC ACID; PHENOL; HYDRATE OF PHENYL; PHENYL ALCOHOL.

Dose.—1 to 3 grains.

In colourless crystals liable to become pink; neutral to test paper; obtained commercially from coal tar. The purest acid of commerce—Absolute Phenol or No. 1—melts at from 104° to 107° F. If, while liquefied, 6 to 10 per cent. of water be added, it becomes hydrated and remains liquid, unless exposed to a low temperature. It dissolves freely in alcohol, ether, chloroform, glycerine, fixed and volatile oils, fats, melted resins,—in vaseline about 1 in 20, water at 56° F. 1 in 14, at 95° F. 1 in 12. With a less quantity of water it forms an oily mixture, not a perfect solution, unless heat be applied; at 155°F. Carbolic Acid and water mix and dissolve in all proportions. A pure acid is manufactured synthetically from benzene and from aniline oil.—P.J. 1891,592.

Carbolic Acid is a powerful antiseptic, antiputrefactive, and disinfectant, and applied locally, it has an anæsthetic action, similar, but inferior, to that of cocaine.

Commercial Varieties in general use.

Absolute Phenol, in 1 lb., 4 oz., and 1 oz. bottles.

Detached crystals, slightly hygroscopic, taste pungent succeeded by a sensation of coldness in the mouth.

No. 1 Carbolic Acid, in 1 lb. bottles.

Of the same degree of purity as Absolute Phenol, but occurring in solid acicular crystalline masses. One part of either absolute phenol or No. 1 acid will make a perfect solution in 14 parts of water at 56° F. These are best adapted for surgical and medical use. They have not the slightest disagreeable odour.

No. 1 Carbolic Acid, *Liquid.*

Ten per cent. of water added to the above.

No. 2 Carbolic Acid, *Crystals,* in 1 lb. bottles; and

No. 2 Carbolic Acid, *Liquid,* in 6 oz. bottles, or bulk.

These make a clear solution in 18 parts of water, are suitable for many surgical purposes, and, as they have no disagreeable odour, they are, being less costly than the above, adapted for use in the sick-room; 1 in 40 may be sprinkled about, &c.

No. 4 Carbolic Acid, *Liquid,* in 16 oz. bottles, or in bulk.

This contains about 10 per cent. of Carbolic Acid, and nearly 90 per cent. of Cresols, and is suitable for use as a household disinfectant for drains, sinks, water-closets, urinals, &c. A solution 1 in 40 of hot water is best used at night. It is colourless or pale straw coloured.

No. 5 Carbolic Acid, *Liquid,* in gallon jars or bulk. Is adapted for stable use, dust-bins, &c.

Acidum Cresylicum, Cresylic Acid.—A mixture of ortho-, meta-, and para-cresols in a crude condition, forming the principal constituent in the last two preparations. The commercial article is much less soluble in water than carbolic acid, and is recommended for vaporization in whooping cough.

Cresol Salicylas, Cresotic Acids.—See pp. 32, 33.

Creolin, Lysol, and **Solveol.**—See p. 125.

Acidum Carbolicum Liquefactum (*Off.*).

Carbolic Acid liquefied by the addition of 10 per cent. of water.

Carbolate of Mercury.—See p. 218.

Carbolic Acid, Camphorated.

Absolute Phenol 12, Camphor 4, Water 1.

Melt or rub together till liquefied. Remains liquid at low temperatures, but is not miscible with water.

A useful wound dressing, and injected to abort boils. Pr. xl.128. Also used as a pigment to the cervix uteri.

Recommended as an antiseptic, germicide, and local anæsthetic.—L. ii./89,867.

A saturated solution of camphor, about 3, in one of liquid carbolic acid, used with success as an intrapulmonary injection in phthisis; no internal irritation; average dose, 10 minims.—Pr. xlii. 52.

Carbolic Acid Gauze, Carbasus Acidi Carbolici. In 6-yard pieces.

Unbleached cotton gauze, medicated with half its weight of—Carbolic Acid 1, Resin 4, Paraffin 4.

B.M.J. ii./71,227; P.J. 1872,41; L. ii./79,901.

Carbolic Acid Lotion.

Carbolic Acid 1, Water 19 or more.

Carbolic Colloid.—See p. 164.

Carbolic Oil.

Carbolic Acid, crystals, 1, Olive Oil 9, (more or less, if ordered).

A modification of this, known as **Lund's Oil,** is used for oiling catheters; it is—

Absolute Phenol 1, Castor Oil 4, Olive Oil 11.

As the olive oil crystallizes in winter, the following **Catheter Oil** answers better:—

Absolute Phenol 1, Castor Oil 7, Almond Oil 8.

Carbolised Catgut Ligatures. Nos. 0, 1, 2, and 3.

No. 0 is finest.—B.M.J. i./69,303; P.J. 1872,41; Pr. xxv.372.

Carbolised Iodine Solution (COLOURLESS).

Solution of Iodine, B.P., 2 drachms, Carbolic Acid 44 grains, Boiling Water to 1 pint.

As a pigment in diphtheria, or as a gargle or inhalation. Internally for Asiatic cholera.—L. ii./83,566.

Useful as a nasal douche in ozæna.—L. ii./67,119; L. ii./83,845,935. For intra-uterine injection.—L. ii./88, 862, 993.

Carbolised Silk, for Ligatures.

Carbolic Acid, in crystals, 1, Yellow Wax, melted, 9.

Dissolve the acid in the wax, soak the silk in the solution and draw it through a cloth to remove the superfluous wax.

Carbolised Tow.

Tow impregnated with tar, and containing 10 per cent. of Carbolic Acid.

Carbolised Wool, in 1 lb. packets.

Cotton wool charged with 6 per cent. of Carbolic Acid.

Capsules of Carbolic Acid.

Contain one drachm in each glass tube, sufficient for half a pint or a pint of lotion; are portable and suitable for the use of obstetricians and surgeons.

Glycerinum Acidi Carbolici (*Off.*).

Carbolic Acid, crystals, 1, Glycerine 4.

Useful in Pertussis. Dose.—Under 1 year ½ minim, 2 to 5 years, 1½ minims.—B.M.J. i./88,743; i./89,1052, 1154; L. i./89,701.

For Hay Fever, Glycerine of Carbolic Acid 1 ounce, Hydrochlorate of Quinine 30 grains, with $\frac{1}{1000}$ part Perchloride of Mercury added, forms a useful pigment for the nasal passages.—L. i./88,1169.

Iodised Phenol.

Iodine 1, Liquid Carbolic Acid, by weight, 4. Rub together and digest till dissolved. For intra-uterine medication on cotton "lap."—B.M.J. i./80,471, and Pr. xxv.297. Useful also as an application for ringworm of the scalp.

Oiled Silk Protective.

Oiled silk coated on both sides with copal varnish, and when dry brushed over with Dextrin 1, Starch 2, Carbolic Lotion (1 in 20), 16.—B.M.J. i./71,31; P.J. 1872,42. For use, see p. 11.

Pastillus Acidi Carbolici, T.H.

Contains ½ grain Carbolic Acid. Antiseptic and stimulant.

Perles of Carbolic Acid.

Globules of carbolic oil, containing one grain of Carbolic Acid in each. *Dose.*—1 or 2.

Pilula Acidi Carbolici.

Absolute Phenol 2 grains, Glycerine ¼ minim, Powdered Althæa 8 grains. Makes a good pill. *Dose.*—1.

Smelling Salts, Carbolised.

Absolute Phenol 24, Carbonate of Ammonium 16, Strong Solution of Ammonia 44, Oil of Lavender 1½, Camphor 3, Pine Sawdust (sifted) *q.s.* For coryza, hay fever, influenza, &c.

Suppositorium Acidi Carbolici.

Oil of Theobroma, melted, 14 grains, Absolute Phenol, 1 grain.

The Suppository of Carbolic Acid with Soap (*Off.*) is almost useless, it dissolves so slowly.

Trochisci Acidi Carbolici, T.H.

One grain in each (nominally).

Unguentum Acidi Carbolici (*Off.*).

Carbolic Acid 1, Soft Paraffin 12, Hard Paraffin 6. Melt and stir till cold.

Useful for smearing the hands previous to operations, examination of ulcers, &c.

Salve Mulls are spread with lead plaster and Carbolic Acid 5 grammes in ⅕ square metre. (See p. 422.)

Vapor Acidi Carbolici, T. H.

20 drops of No. 1 liquid acid in a pint of water at 140° F. As a spray, 3 drops to an ounce of water.

Useful in pertussis.—B.M.J.ii/89,167.

Carbolic Soaps.

For household, toilet, and medical purposes, are prepared of various strengths up to 20 per cent.

Carbolic putty and Carbolic lac plaster have fallen into disuse.

Preservative Solution for Anatomical Subjects.

Carbolic acid 1 pound, Glycerine 4 pints, Methylated Spirit 4 pints. Used for injection into the aorta.

Wickersheimer's Preserving Liquid.

	For Injection.	For Immersion.
Arsenious Acid ...	16 grammes.	12 grammes.
Sodium Chloride ...	80 ,,	60 ,,
Potassium Sulphate ..	200 ,,	150 ,,
,, Nitrate ...	25 ,,	18 ,,
,, Carbonate	20 ,,	15 ,,
Water	10 litres.	10 litres.
Glycerine	4 ,,	4 ,,
Wood Naphtha ...	¾ ,,	¾ ,,

References.

For gradual development of the surgical uses of Carbolic Acid—LISTERISM—in the Antiseptic Treatment of wounds, compound fractures, abscesses, &c., *vide* L. i./68,326,357,387,507; L. ii./68,95,335,668; L. ii./75,515; L. ii./79,901; B.M.J. ii./68,53,101,461,515; B.M.J. i./69,301; B.M.J. ii./69,601; B.M.J. ii./70,248; B.M.J. i./71,30; B.M.J. ii./71,225; B.M.J. ii./75,769; B.M.J. ii./77,465,901; Dub. Jour. Med. Sci. Sept. 1875,229, Aug. 1879,97.

As at present used in surgery, the details are given in the Plymouth and Dublin Addresses.—B.M.J. ii./71,225; L. ii./79,901; Dub. Jour. Med. Sci. Aug. 1879,97; P.J. 1872,21,41.

Debate on.—L. ii./79,922; B.M.J. ii./79,906,1001.

SHORT DIRECTIONS FOR CARBOLIC DRESSING.—*a.* Before and during the operation.—(1) Carbolic Acid spray. Steam passing through a solution of 1 part of

Carbolic Acid to 20 parts of water. (2) Sponges, hands of operators, &c., dipped in solution of Carbolic Acid: 1 in 20. (3) Instruments covered with oil, containing one-tenth part Carbolic Acid; some are dipped into or kept in watery solution: 1 in 20. (4) During intermission of spray, the wound is covered with a cloth dipped in Carbolic Acid solution: 1 in 20. *b.* After operation.—(1) A strip of lint soaked in an oily solution of Carbolic Acid (1 in 10), or a pure rubber drainage tube, similarly treated, is left hanging from the wound during the first (and, if necessary, following) days. Either of them is cut off flush with the edge of the wound. (2) Over this is placed the protective, in which a small hole is cut, corresponding with the end of the drainage tube. The protective consists of a layer of oiled silk, coated on both sides with copal varnish and afterwards brushed over with dextrin, which latter enables it to become uniformly moistened when dipped into solution of Carbolic Acid: 1 in 40. It is thus immersed just before being laid upon the wound, and is intended to prevent irritation, which would be caused by the actual contact of the antiseptic dressing with the wound. Then (3) seven layers of the antiseptic gauze. (4) Over this is applied the mackintosh, which is about 1 inch less in size than the gauze. (5) Then another layer of antiseptic gauze is applied; and, finally, (6) carbolised bandages, or elastic india-rubber web bandage round the edges of the dressings to insure that these are always in contact with the skin.—M.R. 1879,409 (modified).

Results of antiseptic treatment of 100 cases of ovariotomy.—B.M.J. i./80,243; i./81,122; L. i./81,101.

Diluted sulphuric acid, 10 minims, every hour, an antidote for internal poisoning by Carbolic Acid.—L. i./80,702. Sulphate of Magnesium also useful.—Pr. xl.126.

In poisoning by absorption from antiseptic dressings a lotion of 5 per cent. solution of sulphate of sodium is an efficient antidote.—Pr. xxiv.300.

In poisoning by about 1½ ounces of common acid, apomorphine caused emesis with recovery.—L. ii./83,280.

In poisoning by Carbolic Acid, the circulation outlives the respiration; atropine counteracts its poisonous action in this respect.—L. ii./84, 418.

The use of Carbolic lotion keeps off flies and other insects.—L. i./87, 1297.

As Carbolic Acid coagulates albumen, it is sometimes employed in the strong liquid form as a caustic. Anointing with oil any part accidentally touched with it will, to a certain extent, neutralise its caustic action. Camphorated Carbolic Acid is used with advantage in ulcer of the os and cervix uteri, in chronic inflammation of the uterus and cervix with excoriation, and in chronic uterine catarrh.—R. One in 80 or more of water as a vaginal injection, in leucorrhœa, uterine ulceration, and cancer, cleanses, heals, disinfects, and allays pain. Glycerine of Carbolic Acid is useful in ringworm; and an ointment, 10 to 30 grains of the acid to an ounce of lard, or added to other ointments, is efficacious in various parasitic skin diseases. As an inhalation Carbolic Acid lessens and disinfects the overabundant expectoration in bronchitis and gangrenous lung. The pastil, lozenge, or gargle 1 in 100 of water, is useful in sloughs of the mouth or throat.

Internally, in peppermint water, or better, the pilula acidi carbolici or perle is useful in flatulency with great distention, unaccompanied by pain; attention has been called (L. ii./87, 986) to its antipyretic action; it is often combined with rhubarb and extract of nux vomica —a minute quantity of glycerine added will make these combine to form a pill; but Carbolic Acid is more frequently administered as a sulphocarbolate.

Carbolic Acid as an antipyretic; 7 grains reduced temperature and checked diarrhœa in typhoid after quinine had failed; serviceable in hectic fever.—B.M.J. ii./88,976; Pr. xlii.57.

Successful in vomiting of pregnancy; 1 grain every 4 hours.—L.i./89,1121.

Successful use with quinine in typhoid—L.ii./89,1224.

Traumatic tetanus cured by hypodermic injections; 5 to 8 grains in 1 in 20 solution daily; also given internally, afterwards alternating with acetanilide.—B.M.J.E. i./91,78; ii./91,95; i./92,3.

A 2 per cent. solution in spirit as a pigment in diphtheria.—B.M.J.E. i./92,51.

Acid Carbolic in initial stage of influenza successful; 2 minims t.d.s.—B.M.J. i./92,171; P.J. 1892,611.

Carbolic Acid is freely soluble in caustic alkaline solutions, and a French specialty, known as *Phenol Sodique*, is much used as an antiseptic solution by dentists. Its composition is about as follows:—

Liquor Sodii Carbolatis.

Phenol 8, Caustic Soda 4, Distilled Water 100.

Sodii Sulphocarbolas (*Off.*).

In white acicular crystals, like sulphate of magnesium. Soluble 1 in 5 of water. *Dose.*—10 to 15 grains in 1 ounce of water.

In flatulency immediately after meals, give dose prior to food; if the attack occurs some time after food give dose half an hour after meals.—R.

Use in cholera, and the dyspepsia of phthisis.—L. i./69,496, and i./68,144.

Internal use in diphtheria reduces temperature; must be continued some time to prevent relapse.—L. ii./83,448.

Zinci Sulphocarbolas (*Off.*).

Crystals in rectangular colourless plates. Soluble 1 in 2 of water. Useful in gonorrhœa and leucorrhœa; 2 or 3 grains in an ounce of water for injection.

Aseptol.—*Syn.* SULPHO-CARBOL; ORTHOXYPHENYL-SULPHUROUS ACID; ACIDUM SOZOLICUM; SULPHO-CARBOLIC ACID.

Is prepared by mixing in chemically equivalent parts strong sulphuric and carbolic acids, removing the excess of sulphuric acid by carbonate of barium. It is a reddish, volatile, viscous liquid, neither corrosive nor irritant. It has an odour like carbolic acid. Sp. Gr. 1·45. It dissolves readily in water, alcohol, and glycerine; is more strongly antiseptic and disinfectant than either carbolic acid or salicylic acid; it combines directly with bases, forming salts. It has been given internally in doses larger than carbolic acid.—M.R. 1885,342; B.M.J. i./87,29.

A 33 per cent. **solution**, having Sp. Gr. 1·168, and a straw colour, is supplied in commerce. Is slightly caustic, and hardly at all toxic; recommended in preference to carbolic acid.—L. ii./85,588.

In gingivitis and pyorrhœa a 3 per cent. **solution** useful, reduces swelling, arrests flow of pus, and the gums return to their natural shape.—P. J. 1887,884, *ex* Brit. Jour. Dent. Sci.

Bromol.—*Syn.* TRIBROMOPHENOL.

Dose.—½ to 2 grains, in pill.

Obtained by the action of bromine on phenol in solution, and recrystallized from alcohol. In long silky needles, nearly insoluble in water, readily soluble in alcohol, ether, chloroform, and glycerine; also soluble in fats and oils; has an odour resembling bromine, and sweet astringent taste. Is a caustic and disinfectant May be used alone, or in ointment (1 in 10), oily solution (1 in 30), or for diphtheria in glycerine solution (1 in 25). Is not dissolved by gastric juice, and is used as an intestinal disinfectant and in typhoid, also in minute doses for cholera infantum.—L. ii./91, 831.

Sulphaminol.—*Syn.* THIO-OXY-DI-PHENYLAMINE.

A light greenish-yellow powder, tasteless and odourless, insoluble in water, soluble in alkalies and alcohol. Has been used as an antiseptic, its action being due to its decomposition in contact with the fluids of the body, into sulphur and phenol.

Diminishes smell in suppuration, and possesses a desiccating and healing effect on wounds; is painless and inodorous; especially useful in nasal operative wounds and diseases of antrum.—P.J. 1890,889; Th. Gaz. 1890,702; B.M.J. ii./91,476.

Devoid of any physiological action, and antiseptic properties about *nil.*—B.M.J.E. ii./91,198; B.M.J. ii./90,208.

Trichlorphenol.—*Syn.* TRICHLORPHENIC ACID.

A derivative of carbolic acid, in which 3 atoms of hydrogen are replaced by 3 of chlorine; has been used in St. Petersburg as a disinfectant; is said to be 25 times stronger than carbolic acid. It may be prepared by acting on carbolic acid with chlorinated lime. Is in white acicular crystals, with a disagreeable tarry odour, pungent taste, entirely volatilised by heat. Is very soluble in alcohol, ether, glycerine, fixed and volatile oils; also in hot vaseline, but it crystallizes out on cooling; it is insoluble in water, but forms soluble salts with bases. Those of calcium and magnesium have been used medically; the solid substance is but little irritating to the tissues, and the solutions not at all.

In purulent ophthalmia a 2 per cent. and weaker solutions of Trichlorphenate of Magnesium in 12 cases, with average of nine days' treatment, cures complete.—B.M.J. i./85,69.

Chlorphenol.—Under this name a mixture of a **Monochlorphenol** with eugenol, menthol, and alcohol, is sold, and has been used as an inhalation in phthisis. Five cases reported.—L. ii./91,1410.

Ortho-monochlorphenol is a colourless oily liquid with a very diffusive and persistent odour.

ACIDUM CHLORACETICUM.

Chloracetic Acid.

A chlorine compound of acetic acid, in deliquescent white crystals, or more generally liquefied. It blisters the skin, but the preparation more frequently used is

Acidum Trichloraceticum.—P.G. III.

In deliquescent rhombohedral coalescent crystals. This is a quick escharotic for venereal and other warts; useful in throat affections. The application of a crystal produces a dry adhering eschar which is more quickly thrown off than that produced by chromic acid. No secondary inflammation or unpleasant effects. For use as an astringent, 1 dissolved in 1 or 2 of glycerine, with a little iodine and iodide of potassium.—L. i./90,1142; P. J. 1890,471; M. C. 1890,304; Th. Gaz. 1890,332.

Recommended in chronic gonorrhœa, solution 1 in 4, applied on a tampon by means of an endoscope; causes less pain than nitrate of silver.

Is a delicate test for albumen, specially suitable for urine analysis, as it does not precipitate peptones.—B.M.J. ii./89,1114.; i./90,363,681; L. i./90,106. See p. 391.

ACIDUM CHROMICUM.

Chromic Acid (*Off*).—*Syn.* CHROMIC ANHYDRIDE.

In deliquescent, crimson, acicular or columnar crystals. It is odourless, and a powerful oxidising agent, decomposing alcohol, glycerine, &c., with evolution of heat. For use as a caustic, should be free from sulphuric acid, as then it does not spread over the surrounding tissue not requiring its action.

A watery solution—1 in 4, or stronger—is applied with a pointed glass rod to warts on genitals, to condylomata and lupus; and 1 in 40 to ulcerated gums, and syphilitic affections of tongue, pharynx, and larynx.—Pr. xxx.175. Fatal result from use of a solution of 100 grains in 1 ounce.—B.M.J. ii./89,487; Ed. M.J. 1890,88.

For sweating feet; after washing, paint with a 5 to 10 per cent. solution.—Pr. xliii.299; B.M.J.ii./89,1256.

Successful use of chromic acid in cystic goitre, ranula, and other cysts; a concentrated solution applied to the bounds of the cavity; also in epithelioma of tongue. More sensitive test for albuminuria than picric acid. —L. i./90,1350; ii./90,45; ii./91,1388; Th. Gaz. 1890, 537.

Of great value in syphilides of mucous membrane, lingua geographica, lingual psoriasis, nodules of the tongue, warts, &c. A concentrated solution (1 to 2) applied by means of a brush, and after a few minutes washed off with acetate of aluminium solution.—Pr. xlviii. 126.

Useful in snakebite, a 1 per cent. solution injected hypodermically.—Medical Summary, 1891,200.

Chromic Catgut Ligatures. Nos. 0, 1, 2, and 3. No. 0 is finest. (Lister).

Take of Catgut, on the stretch, 5 parts, and immerse for twelve hours in chromic acid 1 part, distilled water 100 parts; transfer, after removing the excess of liquid with a cloth, into 100 parts of sulphurous acid; in 12 hours take out and dry the gut, and keep it dry. Before using, place it along with the instruments for 15 minutes in 1 in 20 carbolic acid lotion.

Liquor Acidi Chromici (*Off.*)—1 to 3 of water.

Acidum Chrysophanicum.—See p. 116.

ACIDUM HYDROBROMICUM DILUTUM.

Diluted Hydrobromic Acid (*Off.*).

Dose.—15 to 50 minims; 60 minims = 10 grains of bromide of potassium. Contains 10 per cent. of acid.

It is a colourless, very sour liquid, without odour. It is used to allay nervous excitability and exhaustion, as a solvent for quinine and preventing quinism, and as an alternative for bromide of potassium; 8 minims will dissolve 5 grains of sulphate of quinine diffused in a little water.

To obviate the headache of cinchonism and the fulness of the head felt when taking iron; for anæmia; also to remove the ill effects of excess of tea or alcohol; and to calm excited heart.—B.M.J. ii./76,42; P.J. 1877,715; Br. ii./76,356; B.M.J. i./77,480.

For tinnitus aurium and tickling hacking cough at night, in doses of 10 minims or more, is very useful.—B.M.J. ii./79,316.

Used as a sedative neurotic.—Pr. xx.447.

Used in headache, with flushing in the face and ringing in the ears, also in toothache.—L. i./82,975.

Insomnia relieved by 60 minim doses well diluted.—Pr. xxiii.296.

In epilepsy, the dose should be full, as much as half an ounce well diluted (this is equal to 36 grains bromide of potassium); 3 ounces daily given to robust patients.—B.M.J. ii./85,587.

ACIDUM HYDROFLUORICUM PURUM.

Pure Hydrofluoric Acid.—*Syn.* Fluoric Acid.

The impure acid of commerce is redistilled for medicinal use. It contains about 30 per cent. of the gas, emits suffocating fumes, and requires to be kept in gutta percha or leaden bottles.

Acidum Fluoricum Dilutum, T.H.

Dose.—15 to 60 minims.

Contains a half per cent. of the redistilled acid, and "is kept in glass bottles for use." Even thus diluted it quickly acts on the glass and becomes inert.

Goitre, 20 cases treated by diluted hydrofluoric acid in doses of 15 to 70 minims—17 recoveries and 3 failures.—L. i./81,448, 497, 537.

Diphtheria, 40 cases (only 3 died) treated by inhalations of hydrofluoric acid gas; produced by the action of sulphuric acid on fluor spar heated in a leaden vessel. The apparatus requires refilling 5 times in 24 hours.—L. ii./82,543.

Inhalations of fluoric acid for Phthisis; in Paris patients have been made to inhale air which has been passed through a mixture of 150 parts of water and 50 of acid.—B.M.J. i./86,563; ii./86,572. Good results.—L. ii./88,581; B.M.J. i./89,559; Th. Gaz. 1890,475.

Five cases; hurtful in all.—L. i./89,496.

Similar inhalations for whooping cough used with success; should not be long continued.—L. i./90,619.

Fluoride of Ammonium.

Suggested to diminish enlarged spleen in doses of 5 to 20 minims of solution, 4 grains in an ounce, after meals. —L. i./86,991; Pr. xxxviii.413. For Phthisis, inhalation from a 2 per 1,000 solution.—B.M.J. i./88,758.

Fluoride of Iron. Ferrous Fluoride.

A purplish white insoluble powder, possessing hæmatinic properties, is valuable for enlarged spleen. *Dose.* —$\frac{1}{30}$ to $\frac{1}{2}$ grain.

Fluoride of Quinine, striking success in relieving enlarged spleen and in rickets.—L. ii./84,559.

ACIDUM LACTICUM.

Lactic Acid (*Off.*).

Dose.—5 to 20 minims or more, well diluted.

A colourless, odourless, syrupy, sour liquid, obtained by the lactic fermentation of sugar; Sp. Gr. 1·21. It contains 75 to 80 per cent. of real acid; is miscible with water, alcohol, and ether, and coagulates milk and albumen. It is employed topically to destroy morbid growths, in diphtheria, &c., and internally as a stomachic tonic in combination with iron and lime, with excess of the acid, and for diabetes.

Acidum Lacticum Dilutum (*Off.*). Sp.Gr. 1·040.

Lactic Acid 3 ounces, Distilled Water *q.s.* to 1 pint. *Dose.*—$\frac{1}{2}$ to 2 drachms.

This diluted or *medicinal* Lactic Acid is too weak for making the preparations referred to in continental formulæ, and may have led to the discrepancies in the results obtained from Lactic Acid here, as compared with those recorded on the Continent in the treatment of diphtheria and diabetes.

Calcii Lactas. *Dose.*—1 to 5 grains.

An opaque, white, crystalline powder; unless freshly prepared not readily soluble in water.

Ferri Lactas, Ferrous Lactate. P.G. III.

Dose.—2 to 10 grains.

In greenish-white crystals; soluble in water; when taken internally is easily assimilated by the system.

Nebula Acidi Lactici, T.H.

Lactic Acid 1 drachm, Distilled Water 15 drachms.

Of great use in diphtheria; appears to have the effect of dissolving the membranous exudation.

Syrup of Lactophosphate of Lime and **Syrup of Lactophosphate of Lime and Iron** are French specialties. The adult dose of them is 3 to 6 tablespoonfuls daily. The English manufactured syrups corresponding to them are given in 1 or 2 teaspoonful doses. The following formulæ are in use as substitutes:—

Syrupus Calcii Lactophosphatis.—N.R. xii.58.

Lactate of Calcium	(by weight)	5
Orange-flower Water	„ ...	10
Syrup ...	„ ...	80
Rub together, and add		
Concentrated Phosphoric Acid	„ ...	5
Oil of Lemon and	„ ...	1-30th
Rectified Spirit, mixed	„ ...	1-10th

Shake well to dissolve, then strain or filter.

Dose.—1 to 2 drachms.

Syrupus Calcii et Ferri Lactophosphatum.

Dose.—1 to 2 drachms.

May be made by dissolving a grain of lactate of iron in each drachm of syrup of lactophosphate of calcium.

Quininæ Lactas.—See p. 350.

Zinci Lactas.—See p. 407.

In croup, lactic acid dissolves the fibrinous exudations; 15 to 20 minims in half an ounce of water used as spray with great success.—M.T.G. i./70,95.

Two cases of diphtheria treated by spray.—B.M.J. i./78,644.

Used as a spray inhalation after tracheotomy for croup.—M.T.G. ii./76,294.

In diabetes, 2 to 4 drachms in half a pint of water taken during the day, with exclusively animal diet, recommended by Cantani. Also given in dyspepsia.—Stillé and Maisch.

Two cases of diabetes treated by non-amylaceous diet and lactic acid (? diluted lactic acid), half an ounce daily for weeks; no benefit from treatment.—B.M.J. ii./72, 211; M.T.G. ii./72,205.

Lactic acid is a soporific in cases of general enfeeblement and debility following disease, best given as an enema, neutralised by bicarbonate of sodium, 5 to 20 grammes of each at bedtime.—M.T.G. ii./76,53.

In catarrh of bladder gave favourable results.—Pr. xxvii.212.

In phthisis, 10 minims twice a day, to allay cough and quench thirst, was useful.—B.M.J. ii./81,470.

In chronic catarrh of the bladder, lactic acid drinks arrest the ammoniacal decomposition of the urine, both inside as well as outside this organ, dissolve the salts which abound in it, and stop the development of microscopic organisms in it.—Pr. xxvii.213.

Discussion on the local use of lactic acid for tubercular laryngitis.—B.M.J. ii./85,949; Y.B. 1890,293.

Pure acid as a paint, or in a paste with kaolin, or as a 50 per cent. injection, destroys lupus, but causes prolonged pain.—Ed.M.J. 1888,677; Pr. xli.214.

Lactic Acid useful in green diarrhœa of infancy in teaspoonful doses of a 2 per cent. solution.—M.C., May, 1890,128; B.M.J.E. i./91,12; i./92,16.

Lactic Acid, 150 to 200 grains daily, well diluted, useful in diarrhœa of phthisis and of typhoid.—Th. Gaz. 1890, 555.

ACIDUM MECONICUM.

Meconic Acid (*Off.*).

Dose.—?

An acid obtained from opium; is in nearly colourless micaceous crystals, readily soluble in alcohol, sparingly so in water. It is official to prepare Liquor Morphinæ Bimeconatis (see p. 280).

Acidum Oleicum (*Off.*).—See Oleata, p. 293.

ACIDUM OSMICUM.

Osmic Acid.—*Syn.* TETROXIDE OF OSMIUM, PEROSMIC ACID, HYPEROSMIC ACID.

Is in large yellow crystals, which soften like wax. Its vapour is intolerably pungent, attacks the eyes and nostrils strongly and painfully. Its taste is acrid and burning, but it is not acid to test or taste. Soluble slowly about 1 in 50 of water. It is poisonous and a powerful oxidizing body. Separates iodine from iodide of potassium, and converts alcohol into aldehyde and acetic acid.

Osmiate of Potassium in 1 per cent. solution is injected to relieve sciatica, and has been given internally for epilepsy.—P.J. 1886,921. A case cured.—L. ii./84,209.

Liquor Acidi Osmici, 1 per cent. (in water).

Dose.—2 to 10 minims hypodermically.

Is much used for hardening animal tissues preparatory to mounting as microscopic objects; fat and medullary matter are blackened by it. By becoming reduced into metallic osmium, it blackens nearly everything it comes in contact with, and requires to be stored in glass bottles free from lead.

Injected hypodermically, has been used for neuralgia, and for strumous glands, sarcoma, and cancer.—L. ii./83,919; Pharm. Post, xvi.537; Pr. xxxi.207.

In sciatica, relief obtained from.—L. i./85,58; ii./87, 335. Useful in muscular rheumatism.—Pr. xli.198.

In neuralgias of severe type and long standing (note on)—5 cases cured, 2 alleviated, in 1 no success; no ill effects in any.—L. i./85,1096; L. ii./85,216. Also at intervals of three days 5 minim doses successful, after 4 or 5 injections.—L. i./85,1189.

Injected into goitrous swellings twice a week, gave permanent relief.—Pr. xxxiv.48.

Acidum Phenylaceticum.—See p. 128.
Acidum Phenylpropionicum.—See p. 128.

ACIDUM PHOSPHORICUM CONCENTRATUM.

Concentrated Phosphoric Acid (*Off.*).

Dose.—2 to 5 minims.

Hydrated Phosphoric Acid, with 33·7 per cent. of water. Officially, this may be made either by the nitric acid oxidation of phosphorus in the presence of water, concentrating the solution and adding water to adjust its Sp. Gr. to 1·5, or, by the atmospheric oxidation of phosphorus, and treating the product with water and a little nitric acid. If carefully prepared by the latter process, it can be obtained free from arsenic—a constant impurity in it if prepared by the other process. It contains 47·4 per cent. of phosphoric anhydride. Commercially, it is also prepared, having Sp. Gr. 1·75, and containing 64·3 per cent. of the anhydride. If of this strength, it may be reduced to B.P. strength by adding to each 3 parts by weight 1 part of distilled water.

Acidum Phosphoricum Dilutum (*Off.*). Sp. Gr. 1·08. *Dose.*—10 to 30 minims.

Contains 10 per cent. of phosphoric anhydride. It is directed to be prepared by adding to—

Concentrated Phosphoric Acid 3 ounces (fluid), Distilled Water *q.s.* to 20 ounces.

By weight, to 4½ ounces of the acid add 17$\frac{1}{10}$ ounces of distilled water; or the same results may be obtained by diluting 4 parts, by weight, of acid Sp. Gr. 1·75 with 21 of distilled water.

It renders iron preparations compatible with astringent vegetable infusions.

ACIDUM PICRICUM.

Picric Acid.—*Syn.* CARBAZOTIC ACID; TRINITROPHENIC ACID. (See note, p. 424).

Dose.—¼ to 2 grains.

Is formed by dropping carbolic into fuming nitric acid, heating the mixture, and purifying by re-crystallizing. It is in yellow, shining, laminar crystals, which stain and give an intense deep yellow colour to water, in which it dissolves about 1 in 90, and 1 in 16 of rectified spirit. It is used for hardening tissues for microscopic examination, and as a urine test for albumen. (See p. 390.) It is intensely bitter. Its salts of ammonium and potassium have been used medicinally, and have been thought to act like quinine; the potassium salt decomposes and explodes if heated or percussed.

Liquor Acidi Picrici, 1 per cent. aqueous solution. *Dose.*—½ to 3 drachms.

In ague, albuminuria, and some forms of headache it has been used, but it is apt to colour the skin, conjunctiva, and urine yellow.—B.M.J. ii./84,1109.

Successful use for erysipelas and inflammatory conditions of skin, as a pigment, 5 to 10 times a day.—B.M.J. i./89,678; L. i./89,702.

Picrate of Ammonium given for ague and malarial fevers. *Dose*, one-eighth to 1½ grains four or five times a day.—L. i./87,866; P.J. 1887, 812.

ACIDUM PYROGALLICUM.

Pyrogallic Acid.—*Syn.* PYROGALLOL.

Dose.—½ to 1½ grains in aqueous solution, or in a pill with syrup,—this must be freshly prepared, and kept from the light.

In very light small white crystals prepared from gallic or tannic acid by carefully heating. It is without odour, tastes insipid, producing a sensation of coolness on the tongue. Soluble in 2½ parts of water, and in 10 parts of melted lard. It has great affinity for oxygen, and possesses antiseptic properties. It darkens the skin and hair, and is used in conjunction with a solution of nitrate of silver for blackening the hair. It is also used in photography.

It is given like gallic acid, but in much smaller doses, to check hæmoptysis, and used in the form of ointment, but must not be too freely applied, for psoriasis, on which it seems to have a specific influenee.

Unguentum Acidi Pyrogallici, B.S.H.

Syn. JARISCH'S OINTMENT. Pyrogallic Acid 60 grains, Lard 1 ounce. Mix. The acid will be in solution if the lard be melted. Used in cases of psoriasis.

Unguentum Pyrogallol Compositum (Unna).
Pyrogallol 5, Salicylic Acid 2, Ichthyol 5, Yellow Vaseline 88.

As an internal astringent for hæmoptysis in doses of a grain every half hour until it ceases, also prescribed with ergot for the same purpose, does not cause vomiting nor derange the stomach. — Dub. Jour. Med. Sci. 1878,470; Pr. xxii.124.

In psoriasis 10 per cent. ointment constantly applied is painful, but efficacious; the tubercle is destroyed, but the healthy skin is unaffected.—Pr. xxiii. 207,373.

Therapeutic uses and toxic effects. A patient suffering from universal psoriasis was poisoned by pyrogallic ointment applied to one half of his body, whilst to the other half chrysophanic acid ointment was applied for comparison. — M.R. 1880,49; Pr. xxv. 135; B.M.J. i./81,1007; ii./88,976; L. ii./81,891.

Proved useful in Hebra's wards in the treatment of psoriasis and other cutaneous affections. 10 per cent. ointment brushed in twice a day and parts covered with flannel.—Pr. xxv.378; L. i./81,576; Br. ii./79,lix.

Serpiginous sores become healthy when dusted with 1 to 4 of starch.—Pr. xxxiii.51.

In psoriasis, a 5 per cent. ointment is useful to limited surfaces, but not to inveterate patches.—L. ii./85,577.

Unna suggests the internal use of diluted nitrohydrochloric acid to obviate the toxic effects of applications of pyrogallic acid.—Ed. M. J., Oct. 1886, 377.

Gallacetophenone.

A derivative of pyrogallol, an atom of hydrogen being replaced by the acetyl group. Occurs in yellowish-brown powder or in needles, freely soluble in alcohol, ether, glycerine, and hot water, very slightly in cold. By addition of acetate of sodium to a hot aqueous solution, about 4 per cent. may be retained on cooling.

Is slowly oxidised and relatively non-poisonous. A 10 per cent. ointment does not stain linen, and is said to act quickly in psoriasis and other non-syphilitic skin affections..—P.J. 1891,346; M.C. April 1892,63.

ACIDUM SALICYLICUM.

Salicylic Acid (*Off.*).

Dose.—5 to 30 grains, in cachets.

In light acicular crystals, odourless, the dust of it is irritating to the nostrils, taste sweetish, slightly soluble in cold water (1 in 500), soluble 1 in 4 of spirit, 1 in 2 of ether, 1 in 120 of olive oil, 1 in 100 of castor oil, and 1 in 200 of glycerine; soluble also in melted fats and vaseline; 20 grains of salicylic acid are rendered soluble in an ounce of water by the addition of 25 grains of borax; solutions of acetate of ammonium and acetate of potassium are recommended for use as solvents, but they only act by forming salicylates of the bases and setting free acetic acid, the odour of which becomes distinctly perceptible; citrate of potassium and phosphate of sodium act as solvents in a similar manner. An aqueous solution of the acid gives a deep violet colour with persalts of iron.

Salicylic acid may be prepared from salicin, from oils of winter-green or tea berry (*Gaultheria procumbens*), sweet birch (*Betula lenta*), *Andromeda Leschnaultii* (an Indian shrub), and other sources, but commercially it is largely prepared by heating carbolic acid with caustic soda in a suitable vessel and passing a stream of carbonic acid through it. Salicylate of sodium is formed, from which the salicylic acid is set free by hydrochloric acid. It requires purification by redissolving and crystallizing. The larger crystals, resembling sulphate of quinine in appearance, are purer than the smaller crystals or the amorphous acid, which is often of a pink tint.

Commercially the acid prepared from oil of winter-green, the *natural* salicylic acid of Mr. J. Williams, is the purest. Oil of winter-green is an impure salicylate of methyl. When treated with caustic potash solution and the volatile matters distilled off, an impure salicylate of potassium remains; this is decomposed by hydrochloric acid, and the salicylic acid obtained purified by dissolving and crystallizing finally from weak spirit. It is in crystals resembling those of strychnine, and larger than those prepared from carbolic acid. Officially either may be used. In commerce the latter, even of good quality, is less pure than the other, but if purified the two are identical.—P.J. 1888,1000.

Investigations on the impurity of artificial salicylic acid and salicylate of sodium; removal of ortho- and para-cresotic acids considered necessary.—P.J. 1890,429, 436; L. ii./90,1173; B.M.J. ii/90,1206,1271,1332; i./91,695.

In conformity with these investigations a so-called "**Salicylic Acid, Physiologically Pure,**" in large prismatic crystals, melting at 156.8°C., is prepared, free from these impurities; but all risk of danger may be avoided by the use of the natural acid and its salts, which are still in general use.—B.M.J. ii./89,1315.

Salicylic acid prevents fermentative and putrefactive processes and is generally an antiseptic. It is largely used for surgical dressings, especially in cancerous affections. It has the advantage over carbolic acid that it has no smell and causes less local irritation, and the disadvantage that it is not volatile, and therefore does not affect the surrounding atmosphere sufficiently. It has been given for various febrile conditions, but particularly for acute rheumatism; for the latter disease salicin is much preferred.

Internally, its effects closely resemble those of quinine, even to the production of ringing in the ears and transient deafness. Large doses alone act as a direct poison on the heart and respiration. It is only partly destroyed in its passage through the organism, and reappears in the urine as late as fifty hours after it has been taken, partly as such and partly as salicyluric acid. Its curative properties are hence due (1) to this resistance to decomposition; (2) to its harmlessness even in gramme doses; and probably (3) to the direct arrest of certain fermentative processes, which we must regard as the exciting cause of various diseases.—Binz.

It has proved useful in the treatment of Menière's disease in small doses.—B.M.J. ii./77,477.

Caused paralysis of uterus with profuse sweating, prevented by combining with ergot.—B.M.J.E. ii./90,40.

Hot strong solution of salicylic acid has been recommended as a useful application to acne.

Capsules of Oil of Gaultheria.—10 minims in each. *Dose.*—1 three times a day or oftener.

The oil has similar properties to salicylic acid. 10 to 20 minims every 3 or 4 hours in rheumatism and sciatica. —Pr. xl. 466. With olive oil externally.—B.M.J. ii./89,347; L.ii./90,444; Th. Gaz. 1891,429; Ed.M.J. 1891,268.

Death from poisoning by 1 ounce of this oil taken to procure abortion.—Pr. xl. 371.

Salicylic acid may be made into pills with glycerine of tragacanth, but the dose required being large, and being so insoluble in water, it is not often given in the pure state; it is generally given as the salt, salicylate of sodium.

Granular Effervescent Salicylic Acid contains 5 grains in 60 grains. *Dose.*—1 drachm or more.

Liquor Acidi Salicylici

Boiling distilled water 1000 parts, Salicylic Acid 1½ parts. Used in preparing solution of hydrochlorate of cocaine (see p. 148), and may be employed as a stable solvent for other salts prone to develop fungi in solution.

Pulvis Salicylicus cum Talco, P.G. III.

Salicylic Acid 3, Wheaten Starch 10, Talc 87.

Mix to a fine powder. Is used to correct the fetid or excessive perspiration of the feet.

Salicylated Camphor.—See p. 97.

Salicylic Collodion.—See p. 163.

Salicylic Cream.

Salicylic Acid, in powder, 2, Carbolic Acid 1, Glycerine 10; mix. G.H. has Salicylic Acid 1, Glycerine 9.

Used as pigment when the skin is irritated by the discharge from wounds, &c., under antiseptic dressings.

Salicylic Plaster Mulls.—See page 421.

Contain respectively 10 and 25 grammes of acid in ⅕ square metre; used successfully to remove thickened epidermis.—L. ii./83,951; B.M.J. ii./83,1071; B.M.J. i./84,602. Others are combined with about 40 grammes of **Creasote,** or **Extract of Cannabis Indica,** 5 grammes.—L.ii./86, 574; B.M.J. ii./87,447,459,472.

Salicylic Wool.

Cotton wool impregnated with 4 per cent. and 10 per cent. of salicylic acid.

Salicifrice.—A special preparation.

An antiseptic tooth-paste, having a saponaceous basis and containing salicylic acid. In use it is very refreshing to the mouth and palate.

Unguentum Acidi Salicylici (*Off.*).

One part to 27 of Ceratum Petrolei (see p. 309).

Iodo- and Di-Iodo-Salicylic Acids.—See p. 245.

Ammonii Salicylas. *Dose.*—5 to 30 grains.

In hard colourless crystals, or minute crystalline powder, very soluble in water.

Bismuthi Salicylas.—See p. 83.

Calcii Salicylas.

Dose.—2 to 20 grains. A white crystalline powder, odourless, with sweetish taste, slightly soluble in water, more so if containing dilute acids. Is useful, alone or with salicylate of bismuth, in diarrhœa and gastro-enteritis.—P.J. 1891,427.

Ferri Salicylas. *Dose.*—3 to 10 grains, in pills.

In commerce is found as a purplish brown powder, slightly soluble in water; given as an anti-arthritic tonic and for tonsillitis.

Found useful, on account of its antiseptic and astringent properties and its slight solubility as an application to foul wounds with a tendency to bleeding.—Edin. Med. Jour. 1877,707.

Diarrhœa after weaning, with offensive motions, following formula recommended:—Sulphate of iron and salicylate of sodium, of each 20 grains, glycerine, 3 drachms, water to 3 ounces. *Dose.*—1 drachm every hour.—B.M.J. ii./86,107.

Potassii Salicylas. *Dose.*—5 to 30 grains.

In commerce is a white crystalline powder, very soluble in water.

Quininæ Salicylas.—See p. 351.

Sodii Salicylas (*Off.*).

Dose.—10 to 30 grains in water—the taste may be disguised by the addition of a drachm of liquid extract of liquorice, or syrup of ginger—or in cachets.

In odourless, white, crystalline scales, or, if prepared from the natural acid, in definite shining silky tabular crystals, soluble in its own weight of water, soluble also in rectified spirit. It possesses an unpleasant sweetish taste, but therapeutically it is more pleasant to take and more rapidly absorbed than the free acid. As it is more difficult to judge of the quality of salicylate of sodium, than of the acid, the following solution containing 10 grains of the salt in one drachm is found convenient for dispensing.

Solutio Sodii Salicylatis (1 in 6).

Salicylic acid, pure	392 grains.
Bicarbonate of Sodium ...	240 „
Distilled Water	4 ounces.

Mix, and when the effervescence ceases filter and add distilled water over the filter *q.s.* to make the filtrate measure six ounces. N.B.—5 of salt = 4 of acid.

Dose.—1 to 3 drachms = 10 to 30 grains.

Salicylate of Sodium is not compatible with free ammonia, carbonate of ammonium, or aromatic spirit of ammonia; if any of these be added to its aqueous solution, the mixture in a short time turns brown; it will do this irrespective of the source of the salicylic acid, whether natural or artificial.

Granular Effervescent Salicylate of Sodium. 6 grains in a drachm. *Dose.*—1 drachm or more.

Sodii Di-thio-salicylas, Di-thio-salicylate of Sodium. *Dose.*—3 grains morning and evening, or repeated doses during an hour at night.

The sodium salt of an acid formed by the action of sulphur chloride on salicylic acid; is a greyish or yellowish-white powder, soluble 1 in 1 of water.

It promptly reduces temperature in articular and gonorrhœal rheumatism; acts more powerfully in small doses than salicylic acid, and is free from its objectionable sequelæ.—L. ii./89,347; P.J. 1889,1049; Y.B. 1890,312.

Foot and mouth disease treated successfully with dithio-salicylate of sodium; 1 to 2 oz. given internally daily, and a 2½ to 5 per cent. solution used to wash the mouths, hoofs, and udders, of the affected animals.—L. i./92,494.

Salicinum, Salicin (*Off.*).

Dose.—5 to 30 grains in aqueous solution, taste may be covered with liquid extract of liquorice, or small dose in pill with glycerine of tragacanth.

A neutral principle in white tabular scaly or acicular crystals without odour, taste moderately bitter. Soluble 1 in 28 parts of cold water, 1 in 50 of spirit, but not soluble in ether. Obtained commercially from various species of willow bark, contained also in poplar bark and in flower buds of meadow sweet.

Salicin is used in small doses, often combined with valerianates and compound rhubarb pill, as a mild tonic. In large doses it has a specific action over acute rheumatism. It is not so depressing in its action as salicylic acid. Under the influence of a ferment, *e.g.* saliva, it is decomposed with absorption of water into saligenin and sugar, and saligenin is afterwards readily oxidised into salicylic acid.—Binz. It is not adapted for use as an external antiseptic. Is used for ague.

Salol. P.G. III. *Dose.*—4 to 30 grains, in cachets or suspended in milk (is patented).

Phenyl Ether of Salicylic Acid.—It is in small white crystals, with a slight aromatic wintergreen odour; is almost tasteless and insoluble in water, but soluble 1 in 10 of alcohol, 2 in 1 of ether, also soluble in fixed oils, and a trace in glycerine. It possesses antiseptic and antipyretic properties, and internally can be used advantageously in place of salicylate of sodium, where this is badly tolerated. In the system it splits up into its component parts, both being found in the urine, which becomes very dark.—P.J. 1886,1005; Th. Gaz. 1888, 692; L.ii./86,31.

Useful in sciatica; 8 grains in the evening and 16 grains at bedtime induced sleep.—L.ii./87,880.

Is a good antiseptic, unirritating; heals ulcers. Use a 3 per cent. solution as a gargle.—B.M.J. ii./86,433.

Its chief value is in acute rheumatism.—L. i./88,867. Is decidedly efficacious, but owes its activity to the salicylic acid it contains.—L. i./88,1072.

Rheumatic polyarthritis, relieved by half a drachm three times a day.—B.M.J.i./87, 793; L.i./87,644.

Summer diarrhœa, successful in.—Pr. xl.465. Also diarrhœa of children, Pr. xliv.60; B.M.J.E. ii./90,38.

Earache and neuralgia of the eyes relieved by ten-grain doses.—Ed.M.J.1888,953.

Five-grain doses used in typhoid with good result. —Pr. xl.373; xlvi,53; Th. Gaz. 1891,6.

On account of slow excretion, should not be given in too large doses; death (4 days after) from 120 grains taken within 8 hours. Administration should be accompanied by sodium sulphate. Large proportion of phenol it contains renders it dangerous for unrestricted use. Contra-indicated in acute or chronic renal disease. Pr.xlv.12,99; Th. Gaz. 1890,704.

Renders urine aseptic, recommended for vesical catarrh, gonorrhœa, and operations on urinary organs. —L. i./90,644; Ed.M.J.1890,1080,387; Pr. xlviii.427.

Salol is decomposed by all parts of the digestive tract except the stomach.—Report on Salol as a diagnostic agent.—B.M.J. i./90,1400; Pr. xlv.442; P.J. 1887, 527, Jan. 1.

Useful in pharyngitis and all forms of sore throat; relieves pain and difficulty of swallowing, and lowers temperature.—B.M.J. i./90,1040.

Salol the best intestinal antiseptic, little irritating; Bismuth Salicylate almost on same level; best form of administration;—Salol, Bismuth Salicylate, Sod. Bicarb. 5 grains each, in cachets.—Th. Gaz. 1891,653.

Salol recommended as a coating for pills intended to act in intestines only. Salol 4, Tannin 1, Ether 20. Varnish several times until layer is sufficiently thick.—P.J. 1891,348.

Doses of 4 grains useful in dysentery.—L. i./92,658.

Collodium Salol, Salol Collodion. Salol 4, Ether 4, Collodion 30. Gives rapid relief to pain of acute rheumatism.—Th. Gaz. 1890,575; Pr. xlv.466.

Salol Catheter Oil. Salol 30 grains, Castor Oil and Oil of Almonds, of each 1 ounce. Does not dissolve the varnish of catheters (G. Buckston Browne).

Salol cum Camphora, Salol Camphor.

Salol 3, Camphor 2, heated together combine to form a viscid liquid, which has been used as an antiseptic in place of iodoform.—P.J.1889,862,62.

Useful in suppuration of the middle ear; is neither painful nor irritating.—M.C. Nov.1890,158; Pr.xlvi.375.

Betol.—See Naphthol, p. 285.

Salophen. ACETYL-PARA-AMIDO-PHENYL-SALICYLIC-ESTER. *Dose.*—10 to 30 grains, in cachets.

In light, white crystalline scales, tasteless and inodorous; soluble in alcohol, ether, and alkalies, almost insoluble in water. It contains 51 per cent. of salicylic acid, and was introduced to replace salol on account of the ill effects thought to result from the elimination of phenol from the latter. It is unaffected by gastric juice, but decomposed by pancreatic ferment. It has a slight antifebrile effect, and quickly removed pain and swelling in acute rheumatism, but does not protect against relapses.—L. i./92,116,547,766; P.J. 1892,612; B.M.J.E. i./92,24.

Salicylamide.

Dose.—2 to 6 grains (or 15 daily), in cachets.

The amide of salicylic acid, produced by action of concentrated ammonia on oil of gaultheria. In small white acicular crystals; soluble 1 in 250 of water, readily in alcohol, chloroform, and ether. Has no taste, is more soluble and more prompt than salicylic acid; acts in smaller doses, and has greater analgesic properties. Prevents conduction in nerve; paralyses nerve first, then muscle; diminishes spinal reflex and muscular irritability. Has no particular effect on respiration or blood pressure.—Th. Gaz. 1891,686; P.J. 1891,846.

Acidum Cresoticum.—Para-Cresotic Acid.

Is a homologue of salicylic acid, obtained from cresol. In white needles, melting at 304°F., easily soluble in alcohol, chloroform, and ether, almost insoluble in water.

Is the least poisonous of the three isomeric cresotic acids, the one exclusively used in therapeutics, and the only one that can be safely used.

Experimental research on its physiology. Has a poisonous action of itself, intensified by mixture with ortho-cresotic acid, and still more by salicylic acid in addition.—B.M.J. i./91,695.

As an antipyretic is inferior to salicylic acid, but better tolerated by the digestion, and does not produce congestion sometimes caused by salicylic acid.—P.J. 1892,694; M.C. May 1892,132.

Sodii Cresotas.—Paracresotate of Sodium.

Dose.—2 to 20 grains. A white microcrystalline powder, slightly soluble in water, with a bitter taste. Is less powerful than salicylate of sodium, but is said to be free from the unpleasant results of the latter. Useful as an antipyretic, in rheumatism and pneumonia, also as an intestinal antiseptic in gastro-intestinal catarrh of children.—B.M.J.E. i./92,48.

Cresol.—*Syn.* ACIDUM CRESYLICUM. See p. 8.

Cresol Salicylas.—Para-Cresol Salicylate.

Syn. CRESALOL. *Dose.*—2 to 10 grains.

The para-phenylic ether of cresylic acid, in white granular crystals with the odour and antiseptic properties of salol. Insoluble in water, freely soluble in spirit. Useful in acute rheumatism, and suggested also for cholera.—L. i./89,305; P.J.1889,701.

References to Salicylic Acid as an Antiseptic.

Forms a valuable antiseptic ointment. An application of salicylic acid and oil removes the fœtor, and forms a comforting application to ulcerated cancer of the breast.—L. ii./74,785; L. ii./75,431,562,871; B.M.J. ii./75,510,769.

As an ointment for eczema and acne.—L. ii./75,870; Pr. xlii.58. In ringworm.—L. i./80,482.

Useful as snuff in hay-fever.—B.M.J. ii./78,101.

Salicylic acid, strychnine, morphine, narcotine, and brucine are all without any effect upon bacteria, even when quite large quantities are put into the solution containing germs, while phenol, spongy iron, alcohol, and permanganate of potassium destroyed bacteria with great rapidity.—Jour. Chem. Soc. xxxix. 258; P.J. 1881,765.

References to Salicylic Acid, the Salicylates, and Salicin given internally.

When given boldly in one large dose of one drachm, or in several smaller doses of 20 to 30 grains, to a healthy person, these substances produce results similar to those of large doses of quinine, but small doses are soon tolerated and the physiological effects are not obtained—they cause headache, suffusion of the eyes, flushed face, slight deafness, muscular trembling and weakness, hurried respiration, weak and quickened pulse, and render the perspiration and urine less acid (?). It is considered that Salicin is converted into Salicylic Acid in the body, and as such produces the effects. In health, the effect on temperature is but little marked and at times variable.—R.

In disease, they lower the temperature, and have a decided action on pyrexia. They have been employed in most febrile diseases, but it is in acute rheumatism that their chief power is felt. For this disease Salicin is preferred. Large doses do great good. 30 grains every 2 hours, or hourly if required, soon produce a marked effect. These remedies should be continued in smaller doses for ten days after the temperature has become normal.—R.

Salicin, specially recommended for acute rheumatism in doses of 10 to 30 grains every 2, 3, or 4 hours.—L. i./76,342,383.

No unpleasant effects compared with salicylic acid.—B.M.J. i/76,627.

General recommendations for its use in rheumatic fever.—L. ii./76,601,677; i./79,875; ii./79,79; B.M.J. i./81,229.

Salicylic acid, whilst of doubtful use in chronic rheumatism, is a rapid and radical remedy for the acute form; given in doses of 7½ to 15 grains.—B.M.J. i./76,569; Pr. xvi.208; B.M.J. i./81,159,337; i./82, 46,459; L. i./76,530,737,840; ii./76,11,254,681,771; ii./79,905; i./80,201,244,281; ii./81,1030,1089,1119, 1120; i./82, 9,54,57,134,135,138.

It has resemblances in action to quinine, and combats malarial poisoning.—Pr. xi., 449.

Dangers attending the use of salicylic acid in acute rheumatism.—L. i./80,327; i./90,1173,1299.

Statistics of above treatment in 39 hospitals; while salicylates are said frequently to produce bad effects, none such are attributed to salicin.—L. i./82,57.

Thesis on the salicylate treatment of rheumatism; duration of the acute stage reduced to 3 or 4 days. Convalescence is more rapid, and tendency to heart complication probably less than from any other treatment.—Pr. xxviii.321,401.

Case of sudden death after three doses of fifteen grains of salicylate.—L. ii./86,1174.

In acute tonsillitis, 10 grains every three hours relieve the distressing symptoms.—B.M.J. i./87,1253; Pr. xl. 260,351.

Maclagan on the failure of the Salicyl compounds in acute rheumatism due to insufficient doses.—L. ii./87,345.

Special report on the failures in the salicylic treatment of rheumatism.—B.M.J. i./88,395.

Large doses of the salicylates relieve neuralgia.—Pr. xxxix. 49. Useful in diarrhœa.—B.M.J. ii./88,521.

Note on the effects of salicylic acid upon headaches associated with increased excretion of uric acid.—L. i./88, 70; B.M.J. i./88,905.

Solution of salicylic acid, 1 in 500, useful as gargle and mouthwash in diphtheria.—B.M.J. i./89,802; Pr. xli.138. Similarly a solution of the sodium salt.—B.M.J. i/89,885. Used internally.—B.M.J. ii./91, 124,284.

Salicylic acid, 20 grains, in solution of acetate of ammonium, 3 or 4 times a day, useful to prevent cough following coryza.—B.M.J. ii./89, 1037.

Salicylate of sodium useful in vertigo with auditory nerve symptoms.—L. i./90,181. Also in chorea. Pr. xlv.297.

Experimental research on comparative action of natural and artificial salicylates of sodium; artificial condemned, but impure used.—B.M.J. ii./89, 1208, 1315; i./90,59. Discussion on use in rheumatism.—L. i./90, 348; B.M.J. i./90,359. Editorial.—B.M.J. i./90,492.

Salicylate of sodium of great use in influenza; the best diaphoretic.—L. i./90, 167,187,267; i./92,518.

Salicylate of sodium of use in dysmenorrhœa. M.C., April 1890,46.

In acute rheumatism salicylates are the most useful of drugs, but should not be given with alkalies in uric acid disease, neither should they be allowed to cause nausea.—Pr.xlvi.277. Compared with salicin in same.—B.M.J. i./90,954.

Chronic serous effusions into pleura often absorbed by salicylate of sodium. Its administration frees from secondary attacks and obviates urgency of operative interference.—L. ii./91,831; B.M.J.E. ii./91,133; Th. Gaz. 1891,841; M.C. Jan. 1892,254; Pr. xlv.290.

Sodium salicylate of service in diabetes. Reduced quantity of urine and removed all but a trace of sugar. Pr. xlvii.91.

Ten grains of salicin in draught with carbonate of ammonium checks pyrexia of phthisis.—B.M.J. i./91, 684.

Salicin said to cure influenza more rapidly than any other mode of treatment, and also to act as a prophylactic and lessen infectiousness.—L. ii./91,121; i./92,327; P.J.1891,83; Pr.xlvii.298; Th. Gaz. 1892,4.

Acidum Scleroticum.—See Ergota, p. 184.

ACIDUM SULPHUROSUM.

Sulphurous Acid (*Off.*).

Dose.—½ to 2 drachms.

A colourless liquid, having a pungent sulphurous odour, and containing 5 per cent. of sulphurous anhydride. Sp. Gr. 1·027. It is liable to oxidise into sulphuric acid if long kept, and when used for throat affections the presence of more than traces of sulphuric acid is objectionable. It may be freed from this by addition of sulphite of barium as long as a precipitate is thrown down, and decanted from sediment (sulphate of barium).

Sulphurous acid is used as a deoxidising antiseptic and disinfectant. It arrests fermentation by destroying the vitality of the organisms producing it. It is often used in the gaseous condition, for disinfecting rooms in which patients suffering from infectious fevers have been nursed. It may be produced by igniting sulphur (1 pound to each 1,000 cubic feet), placed in a strong earthen vessel, which for safety should be supported over a bucket of water, on a pair of tongs laid across it. After the chimney and all crevices have been closed, and paper pasted over apertures in the windows, &c., the sulphur may be ignited by being moistened with methylated spirit and lighted with a match; the sulphur catches readily. The door should then be shut, pasted up with paper and left for six hours. The air should be rendered unfit for respiration, metals exposed in the room should be greased, and coloured materials as much as possible removed, as the gas possesses bleaching properties on some substances.

Sulphurous acid, the solution, is applied externally as a lotion—one part to two or more of water and sometimes a little glycerine added—for parasitic affections such as chloasma, ringworm, pruritus, and thrush, with very good results. Undiluted it is sprayed into the throat for tonsillitis and asthma, or used as an inhalation, a teaspoonful to a pint of cold water. Internally, for gastric fermentation accompanied by sarcinæ it is given with success in its combinations, as

Sodii Sulphis, Sulphite of Sodium (*Off.*).

Dose.—5 to 20 grains; or as

Hyposulphite of Sodium.—*Syn.* THIOSULPHATE OF SODIUM. *Dose.*—10 to 60 grains.

This is also used as a lotion, 1 in 10 for chloasma, ringworm, &c. It may be made to evolve sulphurous acid gas as in the following lotion:—

Hyposulphite of Sodium 3 ounces, Diluted Sulphuric Acid ½ ounce, Water 16 ounces.

Excellent results in flatulent dyspepsia with excessive tympanites from 4 grains twice daily 2 hours after meals.—Prov. Med. Jour., April, 1891.

References to Sulphurous Acid.

As a paint for the throat and as a spray in aphthæ and diphtheria and as a fumigation, and its use in the cattle plague.—M.T.G. i./67,492,549.

Sulphurous acid has little effect on bacteria; after 15 days meat solution containing them, and impregnated with the gas, was bleached, but they were still alive in the strongly acid solution.—P.J.1881,765.

In diphtheria, full and frequent doses of sulphurous acid every 1 or two hours.—B.M.J., ii./87, 778.

Sulphocarbol.—See Aseptol, p. 14.

Acidum Trichloraceticum.—See pp. 16, 391.

ACONITINA (*Off.*).

Aconitine.

Dose.—$\frac{1}{240}$ to $\frac{1}{60}$ grain may be carefully increased up to $\frac{1}{24}$ grain.

An alkaloid obtained from *Aconitum napellus*, and probably other species of aconite. In white, generally amorphous, irregular lumps, may be with difficulty obtained in rhombic tabular prismatic crystals, freely soluble in dilute acids and rectified spirit, soluble also in ether and according to B.P. 1 in 150 of cold water, but pure crystallized aconitine requires 4431 parts at 22° C. and melts at 188·5° C. This forms less than one-third of the total alkaloids of the root, and commercially it is apt to be contaminated with one of them, napelline. (See below.)

J. Williams obtained 0·03 per cent. of pure (?) crystallized aconitine from aconite root of commerce.—P.J. 1876,256.

The English is preferred, next the French, and then the German.

The investigations of Wright, Luff, Dunstan, Ince, Passmore, and J. C. Umney show that in addition to crystallizable aconitine, *Aconitum napellus* contains the alkaloids aconine, napelline, and homo-napelline. Aconine, an uncrystallized alkaloid, insoluble in ether, soluble in chloroform, can be obtained, together with benzoic acid, as a derivative from aconitine. By the action of ethyl benzoate on aconine, anhydro-aconitine has been synthesized. This combines with water to form aconitine, which is thus shown to be mono-benzoyl-aconine. The presence or absence of the benzoyl radicle in these alkaloids, aconitine and aconine, seems to determine their toxic virulence or otherwise. Napelline is another uncrystallizable alkaloid, soluble in ether. This name was previously applied by Hübschmann to a substance which has proved to be a mixture, chiefly composed of aconine. —P.J. 1875,188; 1876,256; 1877,164; 1878,659; 1880,2; 1886,212; 1887,238; 1891,857,55,75; 1892, 729; L. i./92,656; Jour. Chem. Soc., LIX.271; LXI. 385, 395; C and D. i./91,205,242.

Aconitine is a violent poison, the physiological action of the crystallized alkaloid is still under investigation; only this preparation should be used internally. There are still doubts as to which is the more active physiologically, Aconitine or Pseud-Aconitine obtained from *A. ferox*. Pseud-Aconitine melts at 104° to 105° C.—P.J.1880,2. When rubbed on the skin, Aconitine causes a tingling sensation, followed by prolonged numbness. It may be administered in the form of pill, carefully rubbed down with a little sugar of milk, and made into a mass with glycerine of tragacanth. The best alkaloid is a somewhat costly preparation. Aconine and napelline have comparatively little action; napelline produces no tingling sensation like aconitine.

Aconitum Ferox, A. Heterophyllum and **A. Fischeri.**—See p. 410.

Preparations.

Injectio Aconitinæ Hypodermica.

Aconitine (English) 1 grain, Diluted Sulphuric Acid *q.s.*, Distilled Water to ½ ounce. Dilute one drop of the acid with about one drachm of water, and carefully add drop by drop to the aconitine, avoiding excess, till it is dissolved, make up the measure to half an ounce with water. *Dose.*—1 or 2 minims.

Oleatum Aconitinæ.

Aconitine 2 grains, Oleic Acid 100 minims. Dissolve; may be perfumed—is readily absorbed when painted on for neuralgic affections.

Unguentum Aconitinæ (*Off.*).

Aconitine 8 grains, Rectified Spirit ½ drachm; dissolve, and add Lard 1 ounce. Mix thoroughly. Should be freshly prepared. A piece the size of a bean is gently rubbed in for facial neuralgia, care being taken not to apply where the skin is broken, or to touch the mucous membranes.

Other Preparations of Aconite.

Chloroformum Aconiti, B.P.C.

Aconite Root, bruised	20 ounces.
Strong Solution of Ammonia ...	1½ „
Distilled Water...	20 „
Chloroform	*q.s.*

Macerate the aconite with the ammonia and water, previously mixed, for 4 hours, dry and reduce to No. 40

powder. Macerate for 24 hours with 20 ounces of chloroform in a percolator provided with a tap, then percolate slowly, adding more chloroform until 30 ounces are obtained. Useful application for neuralgia, mixes with oils and liniments.

Emplastrum Aconiti in rubber combination, sheets 7 in. by 5 in., rolls 7 in. by 36 in.

Emplastrum Aconiti et Belladonnæ is also prepared in sheets and rolls as above.

Extractum Aconiti (*Off.*). *Dose.*—¼ to 1 grain (from fresh leaves and flowering tops).

Extractum Aconiti Radicis Alcoholicum, Alcoholic Extract of Aconite Root (Fleming). *Dose.*—1/10 to ⅛ grain.
Must be carefully distinguished from the preceding.

Linimentum Aconiti (*Off.*).
1½ = 1 of root; useful in neuralgia.

Pastillus Aconiti.—See p. 211.

Pilula Aconiti. Root, in powder, ⅛ grain in each. *Dose.*—1 hourly = 1 minim of tincture.

Tinctura Aconiti (*Off.*).
1 of dried root in 8 of rectified spirit.

Dose.—As a febrifuge 1 minim every 10 minutes or quarter of an hour, for an hour, then repeat dose every hour till skin acts well and temperature is reduced.—L. i./69,44. In chronic cases 5 to 10 minims less frequently.

Fleming's and **Turnbull's Tinctures** of **Aconite** are about five times the strength of the above. They are sometimes ordered for external use, and were given in doses of 1 to 5 minims.

Aconitine paralyzes all nitrogenous tissues and affects all the tissues of the heart, first its ganglia, next its nerves, and lastly its muscular substance.—R. It acts therapeutically as a depressent, calmative, and diaphoretic. Externally the ointment of aconitine, or aconite liniment painted on either in a pure condition or mixed with belladonna or chloroform liniment, immediately relieves neuralgia, sciatica, and many forms of rheumatism. When effectual they cause a sensation of tingling, and subsequent numbness of the parts to which they are applied. Internally, tincture of aconite is given to con, trol inflammation and to subdue the accompanying fever, with great success, especially if given in the early stages of the disease, in acute sore-throat, tonsillitis, catarrh, scarlatina, gonorrhœa, erysipelas, and other febrile affections, in doses of one minim every hour, it reduces pulse and temperature and causes free diaphoresis.

Use of aconite in all forms of neuralgia, diseases of the heart, rheumatism, and erysipelas.—Fleming on Aconite.

Antagonism of aconitine to digitalin. — B.M.J. Reports 1877,89.

Aconitine of the greatest use in neuralgia of the fifth pair of nerves; dose $\frac{1}{140}$ grain up to $\frac{1}{12}$ grain (? not English.)—Pr. xxii.457 ; Br. ii./79,xxiii.

Aconitine paralyses peripheral sensory nerves, and augments power of motor nerves.—Pr. xx.185.

Physiological action.—Pr. xx.100; Pr. xxii.108.

Hypodermic injection of $\frac{1}{200}$ to $\frac{1}{120}$ grain, useful in trigeminal neuralgia.—Pr. xxiv.136.

Also, $\frac{1}{64}$ grain injected, and dose carefully increased, produces rapid cure in neuralgia.—Pr. xxiv.205.

Fleming's tincture of aconite, one minim every hour in relapsing fever, reduces temperature and pulse, cleans tongue, induces sleep, increases quantity of urine, and promotes perspiration. Superior to Warburg's tincture. —Pr. xxvi.187.

Crystallized aconitine recommended for internal use. The German amorphous aconitine is less powerful than the French, of which $\frac{1}{240}$ grain doses 4 times a day caused alarming effects.—L. ii./80,778.

Note on the variations of strength of different samples of aconitine. Pseud-aconitine acts more on the respiratory system, aconitine more on the heart.—B.M.J.ii./81, 523 ; Trans. Med. Congress, 1881,i.472.

Letter on the varieties of commercial aconitine, noting the extreme variation of their therapeutic power and poisonous properties, cases of poisoning produced by the substitution of one maker's aconitine for another's, referred to.—B.M.J. i./82,555; i./90,761; L. ii./87,1068.

Investigation of Dutch case of poisoning by aconitine. —P.J. 1882,683.

Note on therapeutics of Aconitum ferox.—B.M.J. ii./84,1275.

Death following 2 drachm dose of linimentum aconiti in a drunken adult.—B.M.J. ii./86,680. **Fatal** case of poisoning by 9 minims of same, = about $\frac{1}{10}$ grain aconitine.—B.M.J. ii./91,994; M.C. Feb. 1892,319.

Actæa.—See Cimicifuga, p. 119.

ÆTHER.

Ether (*Off.*).—*Syn.* ÆTHER SULPHURICUS; SULPHURIC ETHER; OXIDE OF ETHYL.

Dose.—20 to 60 minims (best given as spirit of ether, which mixes with water).

Chemically ether is alcohol less a molecule of water. Its properties and general medical uses are so well known as to need little description here. Besides its ordinary medicinal uses, ether is now largely employed for producing general anæsthesia, as well as being applied as a local anæsthetic in the form of spray to freeze the part. In causing general anæsthesia ether produces less depression on the heart than either dichloride of ethidene or chloroform, but its use is unpleasant both to the patient and to the operators. Its suffocating action on the patient, if suffering from any lung or bronchial affection, is very irritating, and has proved fatal. Care must be taken not to employ it near a light, as its vapour is very inflammable, and it has to be used freely. *Vide* letters and report on anæsthetics, in which ether is preferred to chloroform.—B.M.J. ii./75,726; B.M.J. ii./80,760, 776,970; B.M.J. i./82,247.

Anæsthesia by vapour or spray of ether introduced into the rectum.—Pr. xxxiii.58; M.R./84,199; B.M.J. ii./85,659. In dental surgery, L.ii./88,454.

Rectal etherisation used successfully for cholera, hoping to destroy the vitality of bacilli, 15 cases—2 convalescent within 24 hours, 1 died, 12 progressed favourably.—L. ii./85,588.

Revelations during anæsthesia from ether. — L. ii./81,9. Action on the frog's heart, induces very little paralysing effect.—Pr. xxvii.13.

Hypodermically, 20 minims acted as a successful restorative in typhoid fever.—L. ii./83,313. For collapse, hypodermic dose may be a drachm.—L. ii./83,395.

30 minims hypod. for collapse from post partum hæmorrhage, rallied in a few minutes.—L. ii./83,348,388.

Anæsthesia from ether, apart from operation, produces chill, depression, and reduction of temperature.—B.M.J. i./88,1177.

Report on Ether drinking, by Ernest Hart.—B.M.J. ii./90,885.

Two cases of motor paralysis from hypodermic injection of ether; should preferably be injected subcutaneously rather than deeply into muscles.—Ed. M.J. Sept. 1890,244.

Neuralgia and sciatica quickly cured by hypodermic injection of 15 minims ether, followed by massage of the part to aid dispersion.—Pr. xlv.136; M.P.C. i./90, 637; M.C. Sept. 1890,496; Th. Gaz. 1890,648.

Death during ether anæsthesia; not from asphyxia.—L. ii./90,584, 587. Other cases: B.M.J. i./91,82, 1017; ii./91,706, 757; i./92,437; L. i./92,442.

Ether recommended as a menstruum and vehicle for skin medication, on account of solvent action on sebaceous secretion. See Ethereal Tinctures of Belladonna (p. 81), Capsicum (p. 102), Iodine (p. 248), and Menthol (p. 270). L. i./90,1066; ii./90,67; P.J. 1890,84; Pr. xlv.218; Th. Gaz. 1890,554.

Commercial Varieties in General Use.

(1) *From pure Rectified Spirit.*

Æther (*Off.*) Sp. Gr. 0.735.

Ordinary medicinal ether contains a little spirit and water. It is sometimes inhaled for producing general anæsthesia, but is not so suitable for this purpose as

Æther Purus (*Off.*). Sp. Gr. "not exceeding" 0·720;
Absolute Ether.

Should produce no blue colour when shaken with starch paste and one-fourth its bulk of solution of iodide of potassium. Test defective, few samples stand it unless the iodide solution be weaker than B.P.—P.J. 1886,661; 1887,841.

This is best adapted for producing general anæsthesia. It is a pure and definite substance. It may also be used for local anæsthesia.

(2) *From Methylated Spirit.*

Absolute Ether, Methylated, Sp. Gr. 0·717 to 0·719.

Contains a little methylic ether, and is specially adapted for producing local anæsthesia, as it boils under 80° F. It is not adapted for producing general anæsthesia, being too volatile.

Rectified Ether, from Methylated Spirit, Sp. Gr. 0·720.

Methylated ether, well washed to free it from methylic ether, purified and re-distilled. It is well adapted for producing general anæsthesia. Is considered safer than that from pure spirit.—L. i./82,1072.

Methylated Ether, Sp. Gr. 0·730.

Is adapted for common purposes, ice machines, &c. Not fit for medical use. For photography a purer preparation, Sp. Gr. 0·725, is used.

Preparations.

Æther Phosphoratus.—See p. 316.

Collodium.—See p. 162.

As Ether is a direct stimulant to the pancreas, increases its secretion, and assists in the emulsification of fats, it is valuable in the treatment of consumptives, and is used to form:—

Oleum Morrhuæ cum Æthere.

Cod Liver Oil 2 drachms, Pure Ether 10 minims. For a dose; ether may be increased to 15 or 20 minims.—B.M.J. i./68,148, 543,570; L. i./70,380; ii./78,413; i./79,859.

Compound Anæsthetic Ether for local anæsthesia.

Hydride of Amyl 1 part, Rectified Ether 4 parts (*sic*).—M.T.G. ii./71,374. A modification of this was subsequently published as,—

Hydramyl-Ether for general as well as local anæsthesia.

Pure Hydramyl (Hydride of Amyl) and Absolute Ether, of each equal portions.—M.T.G. ii./71,492.

Perles of Ether, 3 minims in each. *Dose.*—1 to 4.

Perles of Ether and Turpentine. *Dose.*—1 to 4.

Useful to relieve pain of gallstones.

Spiritus Ætheris (*Off.*).

Ether, Sp. Gr. 0·735, 1 ounce, Rectified Spirit 2 ounces. *Dose.*—30 to 90 minims.

The older formula is often ordered, viz.:—

Spiritus Ætheris Compositus (*Off.*).

Ether 8 ounces, Rectified Spirit 16 ounces, Oil of

Wine (freshly prepared)* 3 drachms. *Dose.*—30 to 90 minims.

Syn.—Hoffmann's Anodyne, but the simple Spirit of Ether is now called Hoffmann's Anodyne in Continental Pharmacopœias.

Spiritus Ætheris Nitrosi (*Off.*) is a solution of ethereal compounds containing nitrite of ethyl and paraldehyde. *Dose.*—½ to 2 drachms.

Æthyl Nitris. Nitrite of Ethyl. (True.)

Dissolve nitrite of sodium 34 grammes, in water to 120 c.c.; cool below 0° C., and surround vessel with a mixture of ice and salt. Add 13·5 c.c. sulphuric acid to a mixture of 32 c.c. of each, rectified spirit and water, dilute this further to 120 c.c., cool it to 0° C., and pour it very slowly through a thistle-funnel, stirring constantly, to the bottom of the nitrite solution, when a pale yellow layer of ethyl nitrite will rise to the top. This, if decanted and agitated with water in a separator, and afterwards with anhydrous carbonate of potassium (in contact with which it should also be preserved), yields pure nitrite of ethyl. It boils at 17·5° C. (63·5° F.). Suitable for inhalation only. A 3 per cent. solution of this in absolute alcohol, with 5 per cent. of glycerine, forms **Liquor Æthyl Nitritis.** *Dose.*—10 to 60 minims, for use in place of Spiritus Ætheris Nitrosi. It should not be diluted with water until administered.—P.J. 1888,861. Report on this solution and spirit of nitrous ether.—P.J. 1888,490.

ÆTHER ACETICUS.

Acetic Ether (*Off.*).—*Syn.* ACETATE OF ETHYL. *Dose.*—20 to 60 minims.

Is prepared by mixing slowly and keeping cool sulphuric acid 130 with rectified spirit 129, adding acetate of sodium 140, mixing well and distilling 180. This distillate is digested with carbonate of potassium for three days. The ethereal fluid is separated and again distilled, all but about 16 parts. This last distillate—Acetic Ether—is a colourless liquid with an agreeable ethereal odour. Sp. Gr. about 0·900; boiling point about 160° F.; soluble 1 in 10 of water and in all proportions of rectified spirit and of ether. It is used as a menstruum in preparing Liquor Epispasticus (see p. 100).

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* This is directed to be prepared by gradually mixing 36 ounces of sulphuric acid with 40 ounces of rectified spirit, letting the mixture stand for 24 hours, and then distilling it until the fluid in the retort begins to blacken. The distillate is then shaken with lime-water to neutralise any acid; the supernatant liquid is lastly separated, and after exposure to the air for about 12 hours it is ready for use, as ETHEREAL OIL—Oleum Æthereum, or OIL OF WINE, for making the above preparation.

ÆTHYL BROMIDUM.

Bromide of Ethyl.—*Syn.* HYDROBROMIC ETHER. Is prepared by distilling a mixture of alcohol, bromine, and phosphorus. It is a colourless, very volatile liquid with a strong peculiar odour and a sweetish warm taste. It has Sp. Gr. 1·419, boils at 105° F. On keeping, it is liable to liberate free bromine.

It has been used, particularly in America, as an anæsthetic, as has also a mixture of Bromide of Ethyl 1 part, Chloroform 3 parts. and Alcohol 4 parts. Also inhaled to relieve migraine.

Bromide of Ethyl Capsules.

Encased in cotton wool and silk, contain 5 minims in each; are convenient for use when fractured.

Notes and letter on its use for anæsthesia,—one death from; patients manifest a great dislike to its odour.—B.M.J. i./80,565,586,983; M.R. 1880,273.

Notes of 15 cases of anæsthesia and its characteristics; is safe as an anæsthetic can be, rapid in its action and pleasant in its effects, and is not inflammable.—Glasgow Med. Jour. March 1880,259.

For local anæsthesia, recommended as spray or simply short covered contact, not necessary to freeze the part, all feeling ceases. Is of great service to dentists.—L. i./82,212; i./89, 848,900; ii./90,414.

Report on 130 cases; action rapid, recovery quick, after-effects trivial, excitement generally absent.—Pr. xlvi. 344; Th. Gaz. 1892,45.

An excellent anæsthetic for minor and short operations, without excitement; anæsthesia quickly passes off, with no disagreeable after-effects. Unsuccessful in habitual drinkers. Commercial article generally impure, causing nausea, vomiting, and diarrhœa, besides being ineffective.—B.M.J. i./90,864; ii./90,857; ii./91,833; B.M.J.E. i./91,174; Th. Gaz. 1890,542,593.

Often fails as an anæsthetic. Three poisoning cases, 2 fatal.—L. ii./90,593,631; B.M.J. ii./90,857.

Caution—it may increase arterial hæmorrhage.—B.M.J.E. i./92,88.

Æthyleni Bromidum. **Bromide of Ethylene.** *Must be distinguished from the above.*

Dose.—1 to 2 minims (= 4 to 8 "drops") in spirituous solution added to milk, or oily solution hypodermically or in capsules.

A colourless liquid, of sp. gr. 2·163, crystallizing below 48°F., and containing 90·9 per cent. of bromine. Taste sweet, afterwards burning. Soluble 1 in 4 of rectified spirit, miscible in all proportions with absolute alcohol and oils, insoluble in water.

Has been found useful in epilepsy, mostly of long standing; reduces frequency and intensity of attacks. Only in large doses caused nausea.—Th. Gaz. 1891,540; P.J. 1891,1068; B.M.J. i./92,102.

Fatal result of inhalation of 10 drachms supplied in place of bromide of ethyl.—L. i./91,101.

ÆTHYL CHLORIDUM.

Chloride of Ethyl.—*Syn.* HYDROCHLORIC ETHER.

At ordinary temperatures this is gaseous, but condenses into a colourless mobile liquid with a sweetish burning taste. Slightly soluble in water, readily in alcohol. Sp. Gr. ·9214. On account of its low boiling point (about 50° F.) and the intense cold produced by evaporation, it is useful for producing local anæsthesia in minor surgical operations, such as removal of ingrowing nails, opening of abscesses, and tooth extraction; also for allaying the pain of neuralgia. All fat must be removed from part by washing with soap and then with alcohol or ether before applying. In dental cases the patient should be instructed to breathe through the nose during operation, the part well dried, and other parts protected. Its vapour is inflammable. Supplied in capsules containing ten grammes, terminating in a fine tube. This is broken, and the point directed to the required part, when the chloride is volatilized by the warmth of the hand. It should be held at a distance of

6 to 10 inches from the part to be anæsthetized.—L. i./91,578,844; P.J. 1891,978; M.P.C. ii./91,165; Th. Gaz. 1891,718; B.M.J. i./92,535; B.M.J.E. i./92,79.

ÆTHYL IODIDUM.

Iodide of Ethyl.—*Syn.* Hydriodic Ether.

May be obtained by distilling a mixture of alcohol, iodine, and phosphorus. It is a colourless liquid, but liable to become coloured by setting free iodine. It has a penetrating ethereal odour; boils at 148° F., has Sp. Gr. 1·94; is not inflammable. When dropped on red-hot charcoal, it gives off a purple vapour. It is dissolved by alcohol and ether, but not readily by water.

It is useful inhaled as an anæsthetic to relieve the dyspnœa of bronchitic asthma and œdematous laryngitis. As it contains four-fifths of its weight of Iodine, it forms a rapid means of saturating the system with this element; it neither impairs appetite nor weakens digestion.

Iodide of Ethyl Capsules.

Encased in cotton wool and silk, containing 5 minims in each. The glass capsule is snapped, the fluid absorbed by the wool, &c., and inhaled for four or five minutes. This may be repeated 3 or 4 times a day. The patient requires no assistance, and can take one of the capsules from the bed side, even in the dark.—L. ii /79,879.

Increases the bronchial secretion, stimulates the respiratory centres;—5 cases of paroxysms of asthma quickly relieved; of advantage in cardiac and laryngeal dyspnœa.—Pr. xxi.446; M.T.G. i./78,149.

Useful for inhalation in œdema of the glottis from catarrhal laryngitis.—Pr. xxiii.136.

Acts as an antispasmodic in spasmodic asthma and certain forms of nervous dyspnœa: iodine can be detected in the urine 10 minutes after inhalation, and as long as 30 hours after.—Pr. xxv.459.

Useful in bronchial catarrh; induces sleep and promotes expectoration when inhaled.—B.M.J.ii./89,1216.

AGARICUS ALBUS.

White Agaric.—*Syn.* Polyporus Officinalis; Boletus Laricis; Fungus Laricis; Larch or Purging Agaricus.

Dose.—10 to 30 grains.

In white irregular pieces, deprived of the outer rind, the size of the fist or larger; is light, spongy, friable, but not easily powdered, odour faint, taste sweetish, afterwards acrid and bitter.

Under the name of Agaricus are sold preparations of the fly agaric, *Amanita Muscaria* (see Muscarine), from which the White Agaric must be carefully distinguished.

Agaric is in large doses a purgative, small ones an astringent, given to check night sweating (M.R. 1879,267; Pr. xxiii.209; xxix.321), and diarrhœa, to diminish bronchial secretion, and to dry up the milk after weaning.

Acidum Agaricum, Agaric, Agaricic, Agaricinic, or Laricic Acid.

Syn. AGARICIN. P.G. III. [This term was in former editions applied to a slightly impure agaric acid containing about 3 per cent. of Agaricol, which is physiologically inert].

Dose.—$\frac{1}{12}$ to $\frac{1}{6}$, increased to 1 grain.

In minute white crystals, soluble in alcohol, chloroform, and ether, and boiled with water forms a gelatinous solution. Is specially useful in profuse sweating.—Pr. xliii.215; Th. Gaz. 1889,267,535; P.J. 1889,168.

For night sweats dose of $\frac{1}{18}$ grain in pill acts in about 6 hours.—L. i./84,405; i./86,223; Th. Gaz. 1888,246.

Should be combined with Dover's Powder, which checks its laxative action.—Th. Gaz. 1888,41.

Agaricic Acid exercises with certainty a restraining action upon the sweat of pulmonary tuberculosis and other diseases.—L. i./90,818; B.M.J. i./92,947; P.J. 1891,1170; M.C. Aug. 1891,375; Th. Gaz. 1891,464.

Tinctura Agarici. *Dose.*—20 to 60 minims.

1 in 10 of proof spirit.

ALCOHOL ETHYLICUM.

Ethylic Alcohol (*Off.*). — *Syn.* ABSOLUTE ALCOHOL.

Is directed to be prepared by dehydrating rectified spirit, first with carbonate of potassium, and then with chloride of calcium, and distilling. The official preparation has Sp. Gr. 0·797 to 0·800, and therefore contains 1 or 2 per cent. of water. It can be commercially obtained of Sp. Gr. 0·796; if chemically pure, it has Sp. Gr.

0·794. It is now official to add to chloroform, and to prepare Liquor Sodii Ethylatis.

Allyl Alcohol, Hydrate of Allyl.

If pure, is a colourless liquid miscible with water, with a pungent odour and burning taste. Is a powerful antiseptic, and inhibitory to the growth of bacilli.

ALDEHYDUM DILUTUM.

Diluted Aldehyde, T.H.

A mixture of spirit and Aldehyde (Acetaldehyde) containing 15 per cent. of the latter. Aldehyde is an oxidation product of alcohol preceding the formation of acetic acid, into which, if in the pure state, it readily passes. Diluted Aldehyde is a colourless liquid neutral to test papers, and has an ethereal suffocating odour, producing spasm of the glottis when respired.

Vapor Aldehydi, T.H.

Diluted Aldehyde 80 minims, water to 1 ounce.

A teaspoonful to a pint of water at 140°.

Useful in catarrhal congestions and in ozæna.

Metaldehyde. *Dose.*—2 to 8 grains, in cachet or pills.

In silky white acicular crystals, slightly soluble in alcohol and ether, insoluble in water. Has been found a useful sedative and hypnotic.

Paraldehydum, Paraldehyde (*Off.*).

Dose.—30 to 90 minims, or more, in diluted syrup or almond mixture, repeated if needed in ½ an hour.

A colourless liquid at the ordinary temperature, although it, like glacial acetic acid, crystallizes if cooled below 50°F. Sp. Gr. 0·998, may be obtained by treating Aldehyde with dilute sulphuric or nitric acid. Its odour and taste somewhat resemble Aldehyde, but it does not cause the same suffocating action when respired. Soluble 1 in 10 of water. It and its solid congener Metaldehyde are polymers of Aldehyde.

Elixir Paraldehydi. *Dose.*—1 to 3 drachms.

Paraldehyde 240, Glycerine 240, Rectified Spirit 480, Oil of Cinnamon 4, Oil of Bitter Orange 8, Saccharin 1.

Paraldehyde Capsules contain 40 minims.

Dose.—1 or 2.

Paraldehyde is contained, and probably the principal therapeutic agent, in **Spiritus Ætheris Nitrosi**, B.P.

It resembles chloral in its physiological action, but differs from it in strengthening the heart's action, whilst it diminishes its frequency. It greatly increases the flow of urine, but does not affect the skin, nor does it give rise to digestive disturbances, to headache, or other unpleasant symptoms.—B.M.J. i./83,215,956; ii./85,99; i./89,515; L. ii./83,344; P.J. 1889,781; Y.B. 1890, 809; M.R. 1890,520; B.M.J. ii./91,115.

Used 150 times in asylum practice. A useful hypnotic quicker than chloral in dose of 30 to 90 minims.—L. i./85,201. Satisfactory as an enema.—L. i./86,127.

Produces calm and untroubled sleep, not followed by head-ache on awaking; it may be injected hypodermically.—L.i./85,723; ii./89,15; Pr. xliii.13,143.

As a narcotic, may be given in those heart diseases in which chloral would be dangerous.—Pr. xxxiii.138; L.i./87,555; ii./87,204.

A good narcotic, unless there be gastric irritation. Is antagonistic to strychnine, and is sedative rather than anodyne.—B.M.J. ii./85,95.

An unreliable hypnotic, but of value in cardiac asthma in aortic disease, also in delirium tremens and that of typhoid.—Pr. xlii.209; B.M.J. i./89,119.

Danger in chronic emphysema.—Pr. xli.339.

Occasionally failed, when it produced slight excitement; vomiting, nausea, and giddiness sometimes caused. Report of Therapeutic Committee B.M.A.—B.M.J. ii./90,237; Pr. xlv.216; Th. Gaz. Sept. 1890, 625; P.J. 1890,104.

Three and a half ounces taken by error; 9 hours afterwards strychnine hypodermically and ammonia applied and injected, recovered consciousness in 34 hours.—B.M.J. ii./91,1254; M.C. Jan. 1892,256.

ALOIN (*Off.*).

Dose.—½ to 2 grains or less in a pill with hard soap.

A principle obtained from aloes in odourless lemon-yellow crystals, having the characteristic taste of aloes; is sparingly soluble in cold water, about 1 in 60; freely so in alcohol. As obtained from the different varieties of aloes, the products differ slightly, but their medicinal properties are similar. It is named Barbaloin, Socaloin, Nataloin, or Zanaloin, as obtained respectively from Barbadoes (or Curaçoa), Socotrine, Natal, and Zanzibar aloes, these, though not identical, are homologous bodies. Barbaloin is preferred in commerce.—M.T.G. ii./76,177; P.J. 1875,208; P.J. 1876,70.

The purgative properties of aloes are due to these crystalline principles and to uncrystallizable matter soluble in water, nearly allied to them. For hypodermic injection a warm aqueous solution of Aloin may be used. A solution in formamide is less liable than the latter to decomposition, and has been so employed, but both are painful for a few minutes. Purgative action is as slow given hypodermically as by mouth. The activity of Aloin is increased by giving it with an alkali, presumably to decompose it, as Aloin appears not to be itself an active purgative, but to become gradually decomposed in the intestine, into a more active body hence its slowness in action.—B.M.J.E. i./91,135.

For constipation, Sir A. Clark recommends Aloin, extract of nux vomica, sulphate of iron, myrrh, and soap, of each $\frac{1}{2}$ grain in a pill taken half an hour before last meal of the day. If fæces be hard and dry and there be no special heart weakness, add $\frac{1}{2}$ grain of ipecacuanha, and should griping be caused add also $\frac{1}{2}$ grain of extract of belladonna.—L. i./87,2.

Pilula Aloin, Strychninæ et Belladonnæ:— *Dose.*—1 or 2. Aloin $\frac{1}{5}$ grain, Strychnine $\frac{1}{60}$ grain, Alcoholic Extract of Belladonna, $\frac{1}{8}$ grain, in each.

ALUMINIUM.

Alumen (*Off.*). Potash or ammonia alum may be used.

Alumen Exsiccatum (*Off.*).—From potash alum.

Ferro-Alumen.—See p. 204.

Glycerinum Aluminis.—See p. 208.

Ophthalmic Discs contain $\frac{1}{250}$ grain in each.

Points of Alum, also of Sulphate of Copper, mounted in wooden cases, are prepared for ophthalmic and other uses.

Liquor Aluminii Acetici, Solution of Acetate of Aluminium, P.G. III.

Sulphate of Aluminium (true) ...	300.
Acetic Acid, B.P. (by weight) ...	327.
Precipitated Carbonate of Calcium	130.
Water	1,000.

Having dissolved the sulphate in 800 parts of water, add the acetic acid, and while constantly shaking pour in by degrees the carbonate of calcium mixed with 200 parts of water. Set aside for 24 hours in a warm place, and shake frequently, then decant, press the sediment, and filter the solution. Contains 7½ to 8 per cent. of subacetate of aluminium. Diluted 1 to 3 of orange flower water for mouth lotion as used at Aix-les-Bains.

Diluted with twice as much water, thus making a 2½ per cent. solution, it has been used as an antiseptic lotion, and gauze impregnated with a 5 per cent. solution has been used as an antiseptic dressing by Maas of Freiburg. The solution is a powerful antiseptic and slight astringent.—M.T.G. ii./80,506.

Aluminii Chloridum. *Dose.*—2 to 4 grains.

For medicinal use this is met with as a white amorphous powder, very deliquescent. Of distinct service in locomotor ataxy; relieves the pain.—Gowers, Diseases of the Nervous System, 2nd ed. vol. i. p. 437.

Liquor Aluminii Chloridi.

A straw-coloured inodorous liquid, with an astringent taste and acid reaction, Sp. Gr. 1·250; may be obtained by the double decomposition of sulphate of aluminium and chloride of barium. It possesses strong antiseptic properties. **Chloralum,** the common disinfectant, prepared like the last, using calcium chloride, is a much weaker solution, and is darker in colour, owing to its containing some perchloride of iron in solution.—L. ii./70,354,527.

Lapis Divinus, R.O.H. Cuprum Aluminatum. P.G. III. (G.H. has less camphor.)

Alum, sulphate of copper, and nitrate of potassium, of each 1 part, camphor equal to $\frac{1}{50}$ of the whole; fused together, and run into moulds to form pointed sticks.

AMMONIUM.

Ammonii Benzoas (*Off.*).—See p. 2.

Ammonii Bicarbonas. *Dose.*—3 to 10 grains.

In minute white crystals, soluble 1 in 8 of water. As a diffusible stimulant is less caustic in taste and more palatable than the official carbonate; is specially adapted for effervescing draughts in conjunction with citric acid.

Ammonii Bromidum (*Off.*).—*Dose*, 2 to 20 grains. Is used where the potassium salt may cause too much depression.

Inhalation of vapour of ammonium bromide beneficial in various forms of asthma.—L.i/90,1012,1068.

Trochisci Ammonii Bromidi. 2 grains in each with fruit paste. For whooping cough, spasmodic affections of the throat, and loss of voice.

Rubidium-Ammonium Bromide.—In white granular crystals, more defined than those of bromide of ammonium. On the assumption that the greater the atomic weight of a bromide, the greater is its therapeutic activity, bromide of rubidium has been used with good results. For cheapness, the combination with ammonium is employed. Action about equal to that of bromide of potassium; more favourable in some cases. Average dose, 90 grains daily.—Th.Gaz. 1889,684; 1890, 820; 1891,719.; P.J. 1889,62.

Efficient in epilepsy; more powerful than bromide of potassium.—B.M.J. i./90,43.

Ammonii Chloridum (*Off.*).—*Dose* 5 to 20 grains. The pharmacopœia describes both the commercial salt, in tough translucent fibrous masses, and the purer salt, prepared by dissolving the above in water, filtering, and evaporating until snow-white granular crystals are obtained. Either may be used. Liquid extract of liquorice disguises its nauseous taste.

Trochisci Ammonii Chloridi, T.H. Contain 2 grains of the salt in each, with black currant paste as a basis. One every 3 hours useful in congestion of the pharynx and larynx, loss of voice arising from cold and bronchial cough.

Trochisci Ammonii Chloridi cum Glycyrrhiza. Contain 3 grains in each.

Vapor Ammonii Chloridi is used in affections of the throat and Eustachian tube. Produced by air being drawn through hydrochloric acid and ammonia in a suitable apparatus and purified by passing through water or a moist sponge. 15 cases reported.—M.P.C. ii./89,456.

Ammonii Fluoridum.—See p. 19.

Ammonii Iodidum, U.S. *Dose.*—3 to 10 or 20 grains.

A white granular salt, in minute crystalline cubes, very deliquescent and soon becoming yellow or yellowish-brown on exposure to air; odourless when white, with a sharp saline taste and a neutral reaction. Soluble 1 in 1 of water, 1 in 9 of rectified spirit. Should be kept from light and air, else free iodine is quickly liberated. It causes less depression than iodide of potassium, and is preferred to the latter for syphilis and rheumatism.

Ammonii Nitras (*Off.*).

The fused salt is official for the production of nitrous oxide gas; on heating to 350° F. it is resolved into this gas and the vapour of water.

Ammonii Picras.—See p. 23.

Ammonii Salicylas.—See p. 28.

Ammonii Sulpho-Ichthyolas.—See p. 235.

Ammonii Valerianas.

Dose.—1 to 8 grains. In masses of flat colourless deliquescent crystals, with a strong valerian odour, very soluble in water and spirit. A 25 per cent. aqueous solution is prepared for dispensing. *Valérianate d'Ammoniaque Liquide* (Pierlot), a French specialty, is Valerianic Acid 3, Carbonate of Ammonium *q.s.* to neutralize, Alcoholic Extract of Valerian 2, Water 95. *Dose.*—2 to 4 drachms.

Linimentum Opii Ammoniatum.—B.P.C.

Soap Liniment, Compound Camphor Liniment, Tincture of Opium, of each 6 ounces; Belladonna Liniment, Strong Solution of Ammonia, of each 1 ounce. Mix and filter. (Better to stand a week before filtering.) Resembles the nostrum Bow's Liniment.

Liquor Ammoniæ (*Off.*), Sp.Gr. 0·959. *Dose.*—10 to 20 minims.

Hypodermic injections of 2 to 6 minims for collapse; or up to 36 minims for snake poisoning, equal to 12 minims of the stronger liquor.

Cobra snake bite, patient recovered after hypodermic injections of 15 minims of the strong liquor diluted with an equal amount of water.—Pr.xl.291.

Liquor Ammoniæ Fortior (*Off.*), Sp.Gr. 0·891. *Dose.*—3 to 6 minims. Is three times the strength of last preparation.

Liquor Ammoniæ Fortissimus, Sp.Gr. 0·88. It should be about 2·6 per cent. stronger than last preparation.

Liquor Ammonii Acetatis Fortior (*Off.*). *Dose.*—25 to 75 minims. 1 to 4 of distilled water (chloroform water would be better) forms

Liquor Ammonii Acetatis (*Off.*). *Dose.*—2 to 6 drachms.

Liquor Ammonii Citratis Fortior (*Off.*). *Dose.*—30 to 75 minims. 1 to 3 of distilled water forms

Liquor Ammonii Citratis (*Off.*). *Dose.*—2 to 6 drachms.

Spiritus Ammoniæ Aromaticus (*Off.*). *Dose.*—15 to 60 minims. The oils of lemon and nutmeg are now distilled with spirit and water, carbonate of ammonium is dissolved in solution of ammonia and the last portion of distillate, the solution strained and mixed with the first part of the distilled spirit; has Sp. Gr. 0·896.

Spiritus Ammoniæ Fœtidus (*Off.*). *Dose.*—15 to 60 minims.

AMYL NITRIS.

Nitrite of Amyl (*Off.*).

Dose.—By inhalation, the vapour of 2 to 5 minims By the mouth, ¼ to 1 minim.

A yellowish ethereal liquid with a peculiar not disagreeable odour; produced by the action of nitric or nitrous acid on pure amylic alcohol.—Sp. Gr. 0·880; about 70 per cent. distils below 212° F., — it is difficult to obtain uniform (see p. 58); soluble in spirit, insoluble in water. It deteriorates by exposure to the air and becomes comparatively inert. Tested by means of Allen's Nitrometer, a 5 per cent. solution in spirit should yield seven times its volume of nitric oxide gas. New process for making.—P.J. 1888,485. Nitrite of amyl dilates the vessels and lowers blood-pressure.—B.M.J. i./89,29; P.J. 1888,491.

In 30 to 40 seconds after inhaling or swallowing a dose it flushes the face, and increases the heat and perspiration of the head and neck.

It has been successful in relieving angina pectoris, sea sickness, ague, spasmodic asthma, migraine, neuralgic dysmenorrhœa, post-partum hæmorrhage, as an antidote to chloroform, to ward off epileptic attacks, and for the spasm of false croup and whooping-cough.

Capsules of Nitrite of Amyl.

Encased in cotton wool and silk; 1, 2, 3, or 5 minims.

In use the glass capsule is broken, the liquid soaks the cotton wool and silk cover, and can be inhaled most conveniently. For practical purposes the 3-minim size meets all wants.—L. ii./78,89; B.M.J. i./78,452.

In chloroform syncope, Nitrite of Amyl affords the quickest means of restoring the heart's action; the capsules are the most convenient form of using it.—B.M.J. ii./84,1063; Brit. Dent. Jour. 1884,745; B.M.J. ii./85, 588-9; ii./88,522.

Mistura Amyl Nitritis.

Nitrite of Amyl 16 minims, Rectified Spirit 2 drachms. Mix and add to Powdered Tragacanth 6 grains (contained in a dry 4-ounce phial). Then add gradually Distilled Water, to 4 ounces. Shake well. *Dose.*—1 or 2 drachms; is useful against sea-sickness.

For the treatment of angina pectoris 5 drops inhaled; the physiological action occurs in 30 to 60 seconds.—L. ii./67,97; L. ii./75,445; M.T.G. ii./70,272,321; M.T.G. ii./76,17; B.M.J. ii./88,522.

In ague, on the onset of the cold stage, 5 minims inhaled cuts short the attack and checks the recurrence of the paroxysms.—L. i./78,37,185,445; L. ii./78,698; L. i./85,911.

As an antidote to chloroform 3 minims inhaled.—L. i./75,644; ii./91,463; B.M.J. i./79,969; ii./88,179.

Very useful in sea-sickness, 3 drops (from a glass capsule) inhaled and repeated every 2 or 3 hours if necessary.—L. i./79,650,687,759; L. ii./79,212,226, 265,301,303.

In post-partum hæmorrhage, 5 minims inhaled restored patient from collapse.—B.M.J. ii./79,691.

To restore animation a dose should be given in doubtful cases of death, either drowning, hanging, fainting, or fear of being buried alive.—B.M.J. i./79,863.

In tetanus inhale a dose in every spasmodic seizure to gain time.—M.T.G. i./70,472; L. i./74,871.

Relieves infantile convulsions, ¼ to ⅓ minim in alcoholic solution given on sugar.—L. i./82,667.

Is a powerful agent to relax uterine spasms and hour-glass contraction, whether natural or caused by ergot.—B.M.J. i./82,377.

Ten per cent. solution in spirit may be given hypodermically for colic and acute lumbago.—B.M.J. i./82,817.

In uræmic asthma, Nitrite of Amyl capsules found useful.—B.M.J. i./83,811,956,1064,1115.

In puerperal eclampsia, excretion of uric acid largely increased under its use.—Pr. xxxiv.50.

Successful use in epilepsy, controlling the fits and preventing insensibility. One drachm swallowed by mistake, partly recovered by apomorphine, produced permanent good effects.—B.M.J. ii./89,599,688.

The best remedy in angina pectoris; patient's mind relieved by small doses of morphine, combined with the nitrite.—L. i./90, 240. Amyl nitrite and nitroglycerine the best remedies for angina.—Pr. xlvi.253; M.C. May 1891,132.

New process for making, and research on composition of nitrite of amyl of commerce; shown to contain an *α*- and a *β*-amyl nitrite, as well as

Isobutyl Nitrite.—This, when pure, is found prompt in action on blood-pressure, pulse-rate, and respiration, and may be used as a substitute for nitrite of amyl for inhalation.—P.J. 1888,485; B.M.J. ii./88, 1407; Y.B. 1890,308; Pr. xlvii.259.

AMYLENI HYDRAS.

Hydrate of Amylene.—P.G. III.

Syn. DIMETHYL-ETHYL CARBINOL. *Dose.*—30 to 80 minims, flavoured with extract of liquorice.

A colourless liquid, of pungent taste and odour, resembling a mixture of paraldehyde and camphor. Soluble in 8 parts of water, also in alcohol. Sp. gr. 0·815 to 0·820, boiling point 216°F. It is a hypnotic, occupying an intermediate position between chloral and paraldehyde.—B.M.J. i./88,87,549; P.J. 1887,89.

Capsules contain 10 minims in each. *Dose.*—3 to 6.

More free from smell and less dangerous than paraldehyde.—Th. Gaz. Sept. 1887,605.

Is a reliable hypnotic, does not disturb the stomach.—Th. Gaz. Dec. 1887,819; May, 1888,331.

Successful use in a variety of cases.—B.M.J.ii./88,191.

Four cases of poisoning (resembling alcoholic), from overdose. All recovered under hypodermic injections of camphor.—P.J. 1889,608, *ex* Med. Chron.

Recommended for use in epilepsy, of most value in lighter cases.—M.C. April 1890,46; B.M.J.E. ii./90, 59; L. ii./91,1185; Pr. xlvii.383.

Pental.—Under this name an isomeric **Amylene**, (tri-methyl-ethylene), which had formerly been used as an anæsthetic, is again recommended, especially for dental cases. It is a colourless liquid, of sp. gr. 0·6783 at 32°F., with a penetrating mustard-like odour, insoluble in water, miscible in all proportions with alcohol, chloroform, and ether. Is very volatile and inflammable; boils at 100° F.

Is administered exactly as chloroform, and is unirritating to the mucous membrane; anæsthesia is produced after 3 or 4 minutes, and lasts about 4 minutes. Loss of sensation precedes loss of consciousness. Its use in a number of cases.—L. ii./91, 847; i./92,827; B.M.J.E. i./92,51,60; P.J. 1891,346.

ANACARDIUM.

Anacardium occidentale; Cashew Nut.

The pericarp of this reniform-shaped nut contains a quantity of acrid, caustic and vesicating, oily liquid, which produces a dark-coloured stain and an eczematous inflammation of the skin. This liquid has been employed as a specific for leprosy, and as an application for ringworm, corns, and obstinate ulcers, yet three or four drops may be swallowed without marked effect. It is given internally as a vermifuge. It consists of about 90 per cent. of Anacardic acid and 10 per cent. of Cardol. To the latter the vesicating properties are probably due. The kernels are edible.—P.J. 1845,268; 1882,708. May produce poisonous symptoms. — Th. Gaz., July, 1889,448.

Tinctura Anacardii.—Tincture of Cashew Nut.
1 in 10 of rectified spirit. *Dose.*—2 to 10 minims.

The Marking-Nut obtained from *Anacardium officinarum* contains a similar fluid in the pericarp, and possesses similar properties.

ANTHEMIDIS FLORES.

Chamomile Flowers (*Off.*).

In addition to the official Extract, Infusion and Oil, there is prepared from the flowers of *Anthemis nobilis*:—

Tinctura Anthemidis.

Chamomile Flowers, single and fresh, 1 pound; Rectified Spirit, 24 ounces. Macerate a week, press out the liquid, and add to the mass, Distilled Water, 8 ounces. Digest 24 hours; press again; and add the liquid pressed out to the first liquid obtained; set aside a week and filter. *Dose.*—8 to 10 minims, or more.

Chamomile infusion or tincture in small dose is useful in summer diarrhœa of children, often occurring during teething, and in which there are green, many-coloured and slimy stools; it quiets their peevishness.—R.

ANTHOXANTHUM ODORATUM.

Sweet Vernal Grass.

The flowers of this owe their odour on drying to Coumarin. Their pollen is said to be the principal cause of hay-fever, and accordingly, by those who believe in *similars*, a tincture of the plant has been used, internally and locally as a lotion, for this disease.

Tinctura Anthoxanthi.

One of fresh-flowering herb in 10 of spirit 40 O.P., making allowance for the moisture the plant contains.

Dose.—2 to 6 minims.

Anthrarobin.—See p. 129.
Antifebrin.—See p. 126.
Antifungin.—See p. 7.

ANTIMONII CHLORIDUM.

Chloride of Antimony.—*Syn.* TRICHLORIDE OF ANTIMONY.

When pure is in colourless crystals, or translucent crystalline masses, known as butter of antimony. It is very corrosive; on addition to water, it decomposes into free hydrochloric acid and basic oxychloride of antimony, powder of Algaroth.

Liquor Antimonii Chloridi (*Off.*).

A heavy caustic liquid of a yellowish red colour; Sp. Gr. 1·47. It is coloured by impurity, perchloride of iron often added intentionally. It can be obtained colourless. Chloride of antimony is a useful caustic and desiccating escharotic, does not cause much pain.

Antipyrine.—See p. 135.
Antithermin.—See p. 129.

APIOL.

Dose.—3 to 6 minims, in perles, 3 minims in each.

A liquid preparation obtained from, and containing the active properties of, the fruit of *Apium Petroselinum*, common parsley. It is a green oily liquid, with a peculiar odour and a pungent taste like parsley, is not miscible with water, but dissolves readily in alcohol and ether. A stearoptene in light, colourless, acicular crystals, only slightly soluble in water, is also known by the name of **Apiol.** It has been employed as an antiperiodic for ague, and also for amenorrhœa and dysmenorrhœa. The oily apiol has a strong and persistent odour.

Had decided efficacy in primary amenorrhœa or deficiency of secretion, as well as in accidental suppression and in dysmenorrhœa, a perle given night and morning for 4 or 5 days during the epoch.—M.T.G. i./61,97; L. i./85,59.

APOCYNUM, U.S.

American Indian Hemp Root.—*Syn.* APOCYNUM CANNABINUM, CANADIAN HEMP.

Dose of root in powder.—1 to 20 grains.

A resin Apocynin, in white micaceous crystals, soluble in alcohol and ether, a heart poison, arresting it in systole; and a glucoside Apocynein, have been isolated from this root. These must be distinguished from **Apocynin,** an eclectic brown-coloured extractive, given in *dose* of ½ to 1 grain.

Tinctura Apocyni.

1 in 10 of proof spirit. *Dose.*—5 minims to a drachm.

American Indian Hemp is a powerful emetic and diaphoretic in large doses; it also acts as a cathartic, anthelmintic, and diuretic, useful in dropsy and Bright's disease.

Considered one of the best diuretic and hydragogue cathartics, a small quantity produces diuresis, emesis, or catharsis; it has an agreeable aromatic taste and also possesses tonic properties.—Pr. xxviii.62.

Uræmia is warded off by the profuse diuresis it produces.—Y.B. 1886,67.

Very valuable in removing pleuritic effusion.—Ed.M.J. 1887,847; Th. Gaz. 1887,29.

In nephritis caused no diuresis or slowing of pulse; action on heart resembles strophanthus rather than digitalis. Chief use as a diuretic is in cardiac dropsy; diuresis ceases when dropsy has all run off. Caused vomiting in some cases.—Th. Gaz. Sept. 1889,585.

APOMORPHINÆ HYDROCHLORAS.

Hydrochlorate of Apomorphine (*Off.*).

Dose.—$\frac{1}{32}$ to $\frac{1}{16}$ grain, increased, as an expectorant; $\frac{1}{12}$ to $\frac{1}{4}$ grain as an emetic, $\frac{1}{25}$ to $\frac{1}{6}$ grain hypodermically.

A derivative of morphine or codeine obtained by heating them with an excess of hydrochloric acid and without access of air. Apomorphine is morphine deprived of a molecule of water. In commerce the hydrochlorate occurs in minute pale greyish-white, acicular crystals, soluble 1 in 50 of water, but the solution turns emerald-green in colour, but loses little of its medicinal powers. This discolouration is due to the action of free ammonia in the air, a trace of which will develop the tint. Insoluble in ether and chloroform.

It acts as a non-irritant emetic and powerful anti-stimulant; in bronchial asthma doses of $\frac{1}{6}$ grain are very useful. Small doses are expectorant. May be given as

Tabellæ Apomorphinæ, $\frac{1}{50}$ grain in each combined with chocolate. G. H. contain $\frac{1}{30}$ grain.

Injectio Apomorphinæ Hypodermica.

Hydrochlorate of Apomorphine 2 grains, Diluted Hydrochloric Acid 2 minims, Distilled Water to 2 drachms. Filter. *Dose.*—3 to 10 minims as an emetic. The addition of a trace of acid keeps it stable and colourless. In the Official Solution—1 grain in 50 minims of Camphor Water—the apomorphine salt is not completely dissolved at 60° F.

It loses not much in strength by becoming coloured.—L. ii./85,641; B.M.J. i./91,452.

Hypodermic Lamels are prepared containing $\frac{1}{10}$ grain in each.

Mistura Apomorphinæ et Terebenæ, G.H. *Dose.*—1 ounce. Hydrochlorate of Apomorphine $\frac{1}{10}$ grain, Terebene 15 minims, Balsam of Peru 10 minims, Mucilage Mixture* to 1 ounce.

Syrupus Apomorphinæ Hydrochloratis, B.P.C. Hydrochlorate of Apomorphine 5 grains, Diluted Hydrochloric Acid 2 drachms, Rectified Spirit 7 drachms, Distilled Water 7 drachms, Syrup 18 ounces. *Dose.*—$\frac{1}{2}$ to 1 drachm.

Apomorphine never failed to produce vomiting by a single dose, $\frac{1}{8}$ grain by the mouth or $\frac{1}{10}$-grain hypodermically. The vomiting seems to put an end to itself; there is no subsequent nausea, nor is it followed or accompanied by any ill effects.—Trans. Clin. Soc. ii./69,166; M.T.G. ii./79,592.

In a case of poisoning by carbolic acid of great use as an emetic.—Pr. xix.377; L. ii./83,280.

Œsophagus obstructed by plum-stone, by injecting apomorphine hypodermically the vomiting caused its removal. Useful as an emetic in poisoning or stomach overloaded.—Pr. xxi.375.

As an emetic and depressent in alcoholic intoxication, and poisoning, with essential oil of bitter almonds and carbolic acid, cases recovered.—Stillé and Maisch.—B.M.J. i./91,1267. Unsuitable.—B.M.J. i./91,620.

In sunstroke one-sixteenth of a grain injected caused emesis in less than ten minutes, temperature was reduced, skin became slightly moist, pupils dilated, whilst sensation and movement returned within half an hour.—Pr. xxiv.456.

Summary of physiological action.—Pr. xxiv.367.

Hysterical coma, $\frac{1}{10}$ grain cured.—B.M.J.i./80,477.

Useful as an expectorant in bronchitis and catarrhal pneumonia of children.—Pr. xxvii.285.

Two cases of poisoning treated by hypodermic injection, one alcoholic, recovered, the other by oxalic acid, was fatal.—L. i./83,1073; Th. Gaz. April, 1889,242.

***Mistura Mucilaginosa, G.H.** Mucilage of Acacia 2 drachms, Syrup 30 minims, Water to 1 ounce.

As an expectorant 1/20 grain every 2 hours is useful, or, given with the same quantity of morphine every 2 or 4 hours, it lessens cough and increases fluidity of sputa.—M.R. 1882,483,497.

Is a safe, certain, and quick emetic.—B.M.J. i./83,907; i./89,525,885. Especially for children.—Pr. xlii.298.

In dose of 2 to 6 milligrammes (1/16 to 1/8 grain), it relieves the spasm of hiccup, epilepsy, and chorea, without causing nausea.—L. ii./84,1166.

On the eye, its solution acts like cocaine as a local anæsthetic and mydriatic, but its action is always followed by nausea.—Th. Gaz. 1885,524; P.J. 1885,287.

In Pertussis is given with good effect, combined with morphine.—B.M.J. ii./87,78.

Useful as an expectorant in bronchitis; dose may be increased up to 1½ or 2 grains three times daily without emesis, although nausea may be produced in some cases. Best given with syrup of Virginian prune, syrup of tar, or syrup of lemon (see p. 338). Also caused expectoration used as a spray inhalation, 1/10 to 1/2 grain in a little warm water.—B.M.J. i./91,452; P.J. 1891,878; M.C. June, 1891,213; Th. Gaz. 1891,411.

Apocodeinæ Hydrochloras. *Dose.*—1/10, gradually increased to 1 grain.

An amorphous greyish powder (Proc. Roy. Soc. vol. xix. p.71), soluble 1 in 30 of water. Is a mild emetic.

A good expectorant hypodermically. Solution must be neutral; dose up to 25 minims of 2 per cent. solution. Internally, 10 to 30 minims of 1 per cent. solution caused no nausea or vomiting, but produced free expectoration. In pill 3 or 4 grains daily may be safely given.—B.M.J. i./91,455; P.J. 1891,878; M.C. June, 1891,213.

ARGENTI NITRAS.

Nitrate of Silver (*Off.*).—*Syn.* LUNAR CAUSTIC.

Dose.—1/6 to 1/3 grain or more in a pill, best with kaolin ointment as an excipient—*not* with bread crumb,—this contains common salt, which decomposes it.

Solution in spirit of nitrous ether is convenient as a pigment for greasy skin.

Mitigated Nitrate of Silver is prepared of various strengths by fusing together nitrate of silver 1 to 1, 1 to 2, or 1 to 3 of nitrate of potassium, for the use of oculists and surgeons.

The fused mixture of 1 part with 2 of nitrate of potassium is now official as **Mitigated Caustic,** or **Argenti et Potassii Nitras** (*Off.* and *P.G. III.*).

Antidote to Nitrate of Silver—common salt given in some demulcent drink. Salt is also used to arrest its action locally as a caustic. The pain caused by application of solutions of nitrate of silver may be alleviated by previous application of a solution of nitrate of cocaine, the hydrochlorate being incompatible with it.

Toughened Caustic (*Off.*).

Has 5 per cent. of nitrate of potassium added to it before fusing and moulding it into caustic points.

Injectio Argenti Hypodermica.

Chloride of Silver,* freshly prepared	0·5 gramme.
Hyposulphite of Sodium ...	3 grammes.
Distilled water to... ...	100 c.c.

Dose.—2 to 10 minims. Should be freshly prepared.

Hair Dye (Black or Brown).

No. 1 Solution.—Nitrate of Silver 80 grains, Distilled Water 2 ounces.

No. 2 Solution.—Sulphurated Potash 4 drachms, Distilled Water to 4 ounces. After washing and drying the hair, the solutions to be applied separately, in above order, and after 2 minutes the hair well washed with rain water. This dyes black, but lighter shades may be obtained by using a weaker strength of No. 1 solution, which should not be allowed to touch the skin.

Black Dye.

No. 1 Solution.—Pyrogallic acid ¼ ounce, Rectified Spirit 2 ounces, Distilled Water 10 ounces. Use first.

No. 2 Solution.—Nitrate of Silver ¼ ounce, Strong

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* This quantity of chloride is best obtained by the double decomposition of nitrate of silver 0·55 gramme in aqueous solution, and pure chloride of sodium 0·8 gramme, filter and wash the precipitate,—this readily dissolves in the solution of the hyposulphite above.

Solution of Ammonia $\frac{1}{4}$ ounce, Distilled Water to 2 ounces. Use as last recipe.

Ophthalmic Discs of Nitrate of Silver contain $\frac{1}{500}$ grain in each combined with gelatine.

Gonorrhœa treated by solution of nitrate of silver (10 grains to the ounce), applied on a mop of cotton wool to the inflamed part of urethra through an endoscopic tube.—L.i./92,461. Nitrate of cocaine may be added.

Aristol.—See p. 243.

ARSENIUM.

Metallic Arsenic.

Acidum Arseniosum. Arsenious Acid (*Off.*).—*Syn.* ARSENIC; WHITE ARSENIC; ARSENIOUS ANHYDRIDE.

Arsenious anhydride, obtained by roasting arsenical ores, and purified by sublimation. This is the most generally used preparation of arsenic; much used for skin diseases, given as

Liquor Arsenicalis, Fowler's Solution.

Syn. LIQUOR POTASSÆ ARSENITIS (*Off.*).

Dose.—2 to 8 minims. Contains 1 per cent. of arsenious acid.

Successful use in trichinosis; 5 minims, increased gradually to 12, thrice daily.—New York Med. Journ., Sept. 19, 1891; Pr. xlvii.370.

Liquor Arsenici Hydrochloricus (*Off.*).

Dose.—2 to 8 minims. Contains 1 per cent. of arsenious acid. Is compatible with acid mixtures.

De Valangin's Mineral Solvent was one-third the strength of the above.

Liquor Arsenici Bromatus, Bromated Solution of Arsenic.—*Syn.* CLEMENS' SOLUTION OF ARSENITE OF BROMINE.

Dose.—1 to 3 or 5 drops, once or twice a day.

Carbonate of Potassium ...	60 grains.
Arsenious Acid, in powder...	60 grains.
Distilled Water	10 ounces.

Boil until dissolved. When cold, add

Distilled Water, *q.s.* to ...	12 ounces, and
Bromine	120 grains.

Set aside until it decolorises. Useful in epilepsy and diabetes with careful diet.—B.M.J. i./85,701.

Arsenious acid is also administered in pilules. It should be well and carefully triturated with sugar of milk before any liquid excipient is added. Those containing $\frac{1}{20}$, $\frac{1}{30}$, $\frac{1}{60}$, $\frac{1}{100}$, and $\frac{1}{120}$ grain are generally kept made. To increase its tonic effect it is often combined with iron, as in

Pilula Ferri Arsenicalis. *Dose.*—1, 3 times a day.

Arsenious Acid, in fine powder	$\frac{1}{60}$ grain	in
Dried Sulphate of Iron ...	3 grains	one
Syrup	$\frac{1}{2}$ minim	pill.

Levico Water is strongly chalybeate and arsenical; "**Levico Strong**" contains $\frac{1}{12}$ grain arsenious acid per pint, with 30 grains of iron salts, and "**Levico Mild**" $\frac{1}{120}$ grain arsenious acid, with 8 grains iron salts. *Dose.*—Half an ounce, diluted, beginning with the milder.—L.i./90,748; P.J. 1890,810.

La Bourboule contains $\frac{1}{13}$ grain arsenious acid per pint, and a mere trace of iron.

Arsenii Iodidum, Arsenious Iodide (*Off.*).

Dose.—$\frac{1}{30}$ grain, in a pill.

The two elements by direct combination form small orange-coloured crystals, readily and almost entirely soluble in water and in spirit. It is official to form

Liquor Arsenii et Hydrargyri Iodidi.

Syn. DONOVAN'S SOLUTION (*Off.*).

Dose.—5 to 15 minims, or 30 (!) B.P.; is about one-fifteenth stronger than the original formula.

Iodide of Arsenium ... 45 grains.
Red Iodide of Mercury ... 45 grains.

Triturate these in $1\frac{1}{2}$ ounces of distilled water till nearly all dissolved. Filter, and wash the filter with

Distilled water *q.s.* to produce 10 ounces.

Given for syphilitic skin diseases.

Pilula Arsenii et Hydrargyri Iodidi contains $\frac{1}{12}$ grain of each salt = $7\frac{1}{2}$ minims of the solution.

Dose.—1 or 2. See p. 220.

Cupri Arsenis. Arsenite of Copper; Pure Scheele's Green.—*Dose.*—$\frac{1}{100}$ to $\frac{1}{25}$ grain.

A pale green amorphous powder, recommended for various intestinal affections, cholera morbus, cholera infantum, diarrhœa, dysentery, and typhoid.—Dose for adults, $\frac{1}{5000}$ to $\frac{1}{3000}$ grain every 10 minutes for an hour, then hourly; for children, half this quantity. Small repeated doses essential. For chlorosis and functional anæmia, $\frac{1}{50}$ to $\frac{1}{25}$ grain thrice daily successful.—Th. Gaz. 1889,459; 1891,27,97; 1892,30; Ed. M.J. 1890,550; P.J. 1890,247; B.M.J.E. ii./90,48; i./91,27; i./92,48.

Ferri Arsenias (*Off.*). *Dose.*—$\frac{1}{16}$ to $\frac{1}{4}$ gr. in a pill.

Quininæ Arsenias.—See p. 348.

Sodii Arsenias (*Off.*). *Dose.*—$\frac{1}{16}$ to $\frac{1}{8}$ grain.

As this salt crystallizes with either 7 or 12 molecules of water of crystallization, and is efflorescent as well, the proportion of arsenic it contains is uncertain. It is therefore directed to be made anhydrous, and dried under 300° F. for making

Liquor Sodii Arseniatis (*Off.*). *Dose.*—5 to 10 minims. This contains 1 per cent., and is about one-eleventh part stronger than before. It is about three times the strength of Pearson's Solution of Arsenic (Codex), which is much used on the Continent; this contains 1 of crystallized arseniate in 600 of water.

Arsenical Cigarettes are made of paper impregnated with arseniate of sodium, so that each contains $\frac{3}{4}$ grain of the salt. The patient ought to inspire the fumes deeply three or four times.—L. ii./81,83.

Strychninæ Arsenias.—See p. 377.

ASPARAGIN.

Syn. ALTHEIN. *Dose.*—1 to 2 grains.

In hard crystals, which are transparent colourless right rhombic prisms, having a slightly acid reaction.

May be obtained from *Asparagus officinalis*, and the roots of marshmallow, liquorice, belladonna, &c. Soluble 1 in 12 of cold water, dissolves in acid and alkaline solutions. Insoluble in absolute alcohol and ether.

An aqueous solution dissolves yellow oxide of mercury, and is recommended as a vehicle for its hypodermic injection.—B.M.J.E. i./92,52.—See p. 225.

For cardiac dropsy and chronic gout one grain is given three times a day as a diuretic in combination with bromide of potassium.—P.J. 1879,243.

ATROPINA (*Off.*).

Atropine.

Dose.—$\frac{1}{120}$ to $\frac{1}{60}$ grain increased to $\frac{1}{16}$, or in acute mania to $\frac{1}{8}$ grain or more.

An alkaloid obtained from *Atropa Belladonna.* It is generally in hard white acicular prismatic crystals or crystalline masses, strongly alkaline, soluble 1 in 500 of water, 1 in 8 of rectified spirit, 1 in 36 of ether, 1 in 3 of chloroform, 1 in 40 of olive oil, very soluble in glycerine and oleic acid. Melts at 239° F. Being so insoluble in water, it is not suitable for internal use,—generally given as a sulphate.

In commerce a kind of atropine is sometimes met with in light acicular crystals not quite so white as, but resembling, sulphate of quinine in appearance; although obtained from belladonna, this consists according to Ladenburg principally of pure hyoscyamine. His researches prove that the three mydriatic pure alkaloids, Atropine, Hyoscyamine, and Hyoscine, are contained as follows:—Atropine in Atropa Belladonna* and Datura Stramonium; Hyoscyamine in Atropa Belladonna, Datura Stramonium, and Hyoscyamus niger*; Hyoscine† in Hyoscyamus niger and Duboisia myoporoides.

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* It has since been shown that atropine, instead of existing as such in these plants, is a conversion product of hyoscyamine or "light atropine," formed during the process of manufacture, and that pure hyoscyamine may be converted into "heavy atropine" by melting under reduced pressure, or by the addition of a trace of caustic soda to its alcoholic solution. Pure atropine melts at 115°-116° C., and is optically inactive; pure hyoscyamine melts at 108°-109° C., and is lævogyrate: $[\alpha]_D = -21°$. Hyoscyamine is also found in Scopola root (see p. 416) and lettuce, *Lactuca sativa* and *L. virosa.*—P.J. 1891, 449.

Heretofore the terms Atropine and Hyoscyamine have been applied to the "heavy" and the "light" mydriatic alkaloids obtained from *Atropa Belladonna* and *Hyoscyamus niger* respectively, but seeing that the product from either source may be chemically either atropine or hyoscyamine, according to the process of manufacture, the commercial tendency now is to adopt and apply the term hyoscyamine to the alkaloid as above described, irrespective of its botanical source.

† Scopolamine and Belladonnine are two other atropaceous alkaloids, the former recently described by Schmidt. The hyoscine above referred to consists, according to him, almost entirely of scopolamine; and scopolamine, he says, is isomeric with cocaine, not with atropine and hyoscyamine.—P.J. 1890, 890; 1891, 267; 1892, 1021, *ex* Archiv. der Pharm. vol. 230, p. 207.—See p. 231.

"Heavy daturine" is identical with atropine; "light daturine" and "light atropine" are identical with hyoscyamine. Duboisine is nearly pure hyoscine. Pure atropine and pure hyoscyamine as well as hyoscine are isomeric alkaloids, but possess different chemical and physical characters. By the action of baryta water both Atropine and Hyoscyamine split up into Tropic Acid and Tropine. Hyoscine splits up into Tropic Acid and Pseudotropine. On recombination, these form tropyl-pseudotropeine, which is isomeric with hyoscine; it irritates the eye, but is devoid of mydriatic properties. Therapeutically, Hyoscine possesses about five times the calmative power of Atropine or Hyoscyamine.

Tropine and tropic acid may be recombined under certain conditions to form Atropine, or tropine may be combined with other acids such as salicylic or mandelic acid to form salts. These salts when treated with diluted hydrochloric acid form a class of artificial alkaloids, to which the generic name of *tropeines* is given. One of these so produced from the mandelate of tropine is Homatropine or oxytoluyltropeine. This body, like Atropine, forms salts with acids.—Liebig's Annalen, vol. ccvi.307. With mandelic acid pseudotropeine produces pseudo-homatropine.—P.J. 1892,893.

Salts of Homatropine.—See p. 74.

Atropine and its salts are used for ophthalmic purposes to dilate the pupil and to paralyze the accommodation. Given internally or hypodermically, they are antagonistic to opium and morphine, Calabar bean and physostigmine, jaborandi and pilocarpine, aconite and aconitine, muscarine, bromal, and hydrocyanic acid. Physiologically, whilst it acts as a "stimulant" to a large part of the central nervous system, it paralyzes many of the nerves.

Poisoning by atropine successfully treated by pilocarpine.—See p. 225.

Atropinæ Santonas, Santonate of Atropine.

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain, increased as the sulphate.

A white powder consisting of minute granular crystals, soluble 1 in 30 of water. Aqueous solutions, dispensed in yellow bottles, are not liable to become fungoid; they are very useful for ophthalmic use, being also unirritating. —Ed. M.J. 1886, 80, 170; Th. Gaz. June, 1886; Pr. xxxviii.458; xl.58.

Atropinæ Sulphas (*Off.*).

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain increased to $\frac{1}{18}$, or in cases of acute mania $\frac{1}{8}$ grain.

In masses of opaque white minute crystals, or—according to B.P.—a colourless powder, soluble 1 in 4 of water. The crystallized preparation is much to be preferred.

Salicylate and **Valerianate** of **Atropine,** are also used.

The solution of the salicylate is said to have special advantages in not undergoing change by keeping. Soluble 1 in 20 of water.—Br. i./81,lxii.

Liquor Atropinæ Salicylatis (Charing Cross Hospital).—Atropine $\frac{1}{2}$ grain, Salicylic Acid $\frac{3}{4}$ grain, Water 1 ounce.

Lamellæ Atropinæ, Discs of Atropine (*Off.*).

Contain $\frac{1}{5000}$ grain of the sulphate in each, combined with gelatine, for dilating the pupil; others (non-official) containing $\frac{1}{500}$ and $\frac{1}{250}$ grain paralyse the accommodation. Also prepared containing combined Sulphate of Atropine, $\frac{1}{1000}$ grain, with Hydrochlorate of Cocaine, $\frac{1}{200}$ grain; and Sulphate of Atropine, $\frac{1}{5000}$ grain, with $\frac{1}{500}$ grain of Morphine respectively.

Hypodermic Lamels contain $\frac{1}{120}$ and $\frac{1}{100}$ grain in each, and also $\frac{1}{120}$ grain combined with Acetate of Morphine, $\frac{1}{4}$ grain.

Injectio Atropinæ Hypodermica.

Sulphate of atropine 4 grains, to the ounce of distilled water. *Dose.*—1 to 4 minims, or more. In R.O.H. it is half this strength.

Injectio Morphinæ et Atropinæ Hypodermica. —See Morphina, p. 278.

Linimentum Atropinæ.

Atropine 4 grains (more or less, if ordered), Oleic Acid 1 drachm, Castor Oil 1 drachm, Oil of Lavender 5 minims, Rectified Spirit to 1 ounce.

In lumbago and other rheumatic affections is very serviceable used with gentle friction; it is readily absorbed.

Liquor Atropinæ Sulphatis (*Off.*).

Sulphate of atropine 1 to 99 parts of camphor water. *Dose.*—1 to 4 minims, or more.

Is much used for ophthalmic purposes. The sulphate should not be acid, else the solution will be irritating to the eye. It is better to use the crystallized salt, a solution of which is much more stable than that of the B.P. salt. In many cases in which it is used for the eye this solution is much too strong, as it is apt to produce glaucoma.—B.M.J. ii./82,93,178,193.

Guttæ Atropinæ Sulphatis, R.O.H.

Have 2 grains of the salt to the ounce of distilled water. Guttæ Atropinæ Sulphatis Mitiores R.O.H. and Guttæ Atropinæ Sulphatis Fortiores R.O.H. have respectively 1 and 4 grains to the ounce; also combined with Alum 3 grains, or Sulphate of Zinc 1 grain to the ounce of above weakest drops. R.O.H. also orders the combination of 10 grains of Hydrochlorate of Cocaine with 2 grains of Sulphate of Atropine to the ounce of distilled water. In R.O.H. camphor water as a preservative is disapproved of.

Oleatum Atropinæ.

Atropine 5 grains, Oleic Acid 200 minims. Heat in a water bath till dissolved. Perfume with otto of rose, or lavender, if preferred. Useful to paint on painful parts.

Pessaries of Atropine are prepared with gelatine mass or at times with oil of theobroma, containing generally about $\frac{1}{20}$ grain of the alkaloid in each.

Pilula Atropinæ, $\frac{1}{120}$, $\frac{1}{100}$, $\frac{1}{80}$, $\frac{1}{60}$ grain in each.

Taken at bedtime, to check night-sweating. Is apt to cause dryness of the throat.

Pilula Atropinæ, Arsenici et Quininæ.

Sulphate of quinine 18 grains, solution of arsenic 12 minims, solution of sulphate of atropine 1 minim, extract of gentian 20 grains, and acacia *q.s.* to make 12 pills. For catarrh, if taken in early stage, one every 3, 4, or 6 hours, nip it in the bud.—Pr. xxxviii.179.

Unguentum Atropinæ (*Off.*).

Atropine 8 grains, dissolved in ½ drachm of rectified spirit, and mixed with an ounce of lard.

Unguentum Atropinæ, R.O.H., is prepared with vaseline like Vaselinum Atropinæ, but with 4 grains of atropine to the ounce. **Unguentum Atropinæ cum Acido Borico**, R.O.H., has 60 grains of powdered boric acid added to above, and **Unguentum Atropinæ cum Cocaina,** R.O.H., has 10 grains of cocaine (alkaloid) dissolved in the same. **Unguentum Hydrargyri Oxidi Flavi cum Atropina,** R.O.H., has 4 grains of the yellow oxide, and 2 grains of atropine to the ounce of soft paraffin. **Unguentum Iodoformi cum Atropina,** R.O.H., has 60 grains of precipitated iodoform in place of the yellow oxide in last preparation.

Vaselinum Atropinæ.

Atropine (pure alkaloid) 1, Vaseline 120.

Heat carefully till dissolved. N.B.—In previous editions this was double the above strength; 1 in 120 is about as much as is dissolved when cold. Sulphate of Atropine is not soluble in vaseline.

This forms a definite, convenient, and economical mode of applying atropine to the eye. A little may be placed within the lower lid. It produces no irritation. For some purposes it will bear dilution.—Br. ii./82,xci.

Idiosyncrasy to; giddiness and drowsiness, with dryness of tongue, stupor, and fright.—B.M.J. ii./88,990; L. ii./89,1369.

Atropine and belladonna either given internally, hypodermically, or used externally, diminish perspiration, and will check this when excessive, as in the night sweats of phthisis and other wasting diseases; should be used locally for profuse sweating of the hands, feet, or other parts; also for leucorrhœa and uterine discharges. They likewise check the secretion of milk and saliva, and antagonise such drugs as jaborandi, opium, Calabar bean, muscarine, aconite, bromal, and prussic acid.—R.

In night-sweating, $\frac{1}{200}$ to $\frac{1}{80}$ grain may be increased to $\frac{1}{25}$ grain, taken at bedtime. Is apt to cause dryness of the throat, and is not so useful for this purpose as picrotoxin or pilocarpine.—Pr. ix.91,224; Pr. xxiii.93.

Causes sleep in acute mania in dose of $\frac{1}{4}$ to 1 grain of sulphate.—Pr. xviii.166; R.

Physiological experiments on antagonism to morphine. —Pr. xviii.356.

Antagonism to pilocarpine.—L. ii./79,479. See p. 256.

One grain of sulphate of atropine subcutaneously injected cured a case of poisoning by laudanum (equal to 12 grains of opium).—L. i./78,354; B.M.J. i./78,267.

A case of poisoning by $2\frac{1}{2}$ grains of sulphate of atropine was cured by 16 centigrammes of hydrochlorate of pilocarpine given in centigramme doses every 5 or 10 minutes.—B.M.J. i./80,366; P.J. 1880,771. Poisoning by 3½ grains; recovery after emesis.—B.M.J. i./89, 1051. Other cases treated with morphine.—L. ii./89, 1003; L. i./90,1311; B.M.J. i./90,1440.

Use of hypodermic injection preivous to the administration of chloroform as an antidote to the cardio-inhibitory effects of chloroform.—B.M.J. ii./80,620,715,761; M.C. May 1890,128. Prevention of shock by injection before ether anæsthesia.—Th. Gaz. 1889,239.

Atropine $\frac{1}{20}$ grain is antagonistic to 1 grain of morphine. In cases of poisoning small doses should be frequently injected hypodermically, and the poison eliminated by drawing off the urine with a catheter frequently.—B.M.J. i./81,239; Pr. xxvi.128.

Case of poisoning by 6 drachms of tincture of opium, treated with two hypodermic injections of sulphate of atropine, with recovery.—L. i./79,843.

Belladonna poisoning successfully treated by hypodermic injection of extract of physostigma.—B.M.J. i./81,918.

In lead poisoning, full doses of atropine relieve the colic and head pain, keep bowels open, and assist in return of bodily powers.—L. ii./91,1161; P.J. 1891,429.

In iritis Atropine is indicated, in glaucoma Eserine.—Pr. xxxi.321.

Poisoning by opium (laudanum and paregoric) equal to 18 grains of dry opium, after other remedies had failed, recovered by injecting hypodermically $\frac{1}{80}$ grain doses of sulphate of atropine.—B.M.J. i./84,605.

Hæmoptysis is checked by hypodermic injection of atropine.—B.M.J. ii./87,521; Th. Gaz. Feb. 1889,101.

Homatropine, (see p. 70) and its Salts, **Hydrobromate, Hydrochlorate, and Salicylate,** are in minute granular white crystals. Their solutions act as quick and decided local mydriatics, the pupil rapidly returning to its normal condition, but Homatropine, it is said, includes none of the poisonous properties of atropine. The salts are freely soluble in water; pure Homatropine is nearly insoluble in water, but soluble in oils, or 1 in 100 of vaseline. They are costly. *Dose of each.*—$\frac{1}{120}$ to $\frac{1}{20}$ grain.

Oleum Homatropinæ. A 2 per cent solution in castor oil, by weight, dissolved by heat.

Oleum Homatropinæ cum Cocaina, contains in addition 2 per cent of cocaine. R.O.H. has 10 grains of each to the ounce, which is practically the same.

These oily solutions have the advantage, when dropped into the eye, of not being washed out by the tears, nor do they give rise to oil-globules on the cornea, like vaseline solutions.—M.T.G. ii./85,73.

Homatropinæ Hydrobromas (*Off.*).

In minute prismatic crystals, soluble 1 in 6 of water, 1 in 183 of ethylic alcohol. Is the salt mostly used. *Dose.*—$\frac{1}{80}$ to $\frac{1}{20}$ grain.

Guttæ Homatropinæ, R.O.H.

Hydrobromate of Homatropine 4 grains to Distilled Water 1 ounce.

Injectio Homatropinæ Hypodermica, 1 in 120, is used. *Dose,* 1 to 6 minims, increased.

Ophthalmic Discs are also prepared containing $\frac{1}{5000}$ grain Homatropine in each, likewise $\frac{1}{5000}$ grain of Homatropine combined with $\frac{1}{200}$ grain of Cocaine, and $\frac{1}{200}$ grain Homatropine with $\frac{1}{200}$ grain of Cocaine in each respectively.

Gelatine discs of Homatropine and Cocaine (each $\frac{1}{50}$ grain), may be substituted for Atropine. Preferable to aqueous or oily solutions.—B.M.J.E. ii./91,72.

The mydriatic and general physiological properties of the Hydrobromate of Homatropine resemble, but in a weaker degree, those of atropine, excepting that it slows the heart's beats and renders them irregular in force and rhythm.—L. i./80,795.

Action in checking night-sweating inferior to atropine and picrotoxin. Large doses cause staggering gait, like atropine.—Pr. xxv.252.

It enlarges the pupil and paralyzes the ciliary muscles as quickly and thoroughly as an equally strong solution of atropine; but the effects of Homatropine disappear entirely in twelve to twenty-four hours, while the effect of atropine continues for many days, and while it lasts the patient is disabled from reading and writing.—B.M.J. i./82,523.

Homatropine oil recommended in preference to atropine in estimating lesions of refraction; inconvenience of mydriasis may be partially overcome by eserine solution.—M.T.G. ii./85,73.

Delirium in child following instillation of $\frac{2}{15}$ grain into eyes.—L. i./92,819.

AURI ET SODII CHLORIDUM.

Chloride of Gold and Sodium.

(Codex, U.S. and P.G. III.)

Dose.—$\frac{1}{80}$ to $\frac{1}{12}$ increased to $\frac{1}{2}$ grain in a pill.

An orange-yellow crystalline, deliquescent powder, soluble 1 in 2 of water; only partially soluble in alcohol. The preparation of the Codex contains a molecule of each of chloride of gold and chloride of sodium, combined as a double salt, containing 49·6 per cent. of metallic gold. The U.S. preparation is a mixture of equal parts by weight of the two salts; it yields 32·4 per cent. of gold, and that of P.G. iii. 30 per cent. It is sometimes used as a caustic, and given internally for syphilis.

Lupus successfully treated by hypodermic injection of chloride of gold with cyanide of potassium; doses from $\frac{1}{1000}$ to $\frac{1}{100}$ grain of each.—B.M.J.E. i./91,166.

Use as antidote to cobra poison.—L. i./92,1296.

Auri Bromidum. **Bromide of Gold, Auric Bromide.**

Dose.—$\frac{1}{60}$ to $\frac{1}{10}$, increased to $\frac{1}{5}$ grain, well diluted.

A dark brown, non-deliquescent powder, soluble in water and ether.

In epilepsy and migraine, tolerated better than other bromides, though too large doses determine a not severe cephalagia without somnolence. Effects are durable, epileptics who have taken it sometimes remain for years free from attacks.—Repertoire de Pharmacie, April 10, 1889,163.

Good results in several cases of hysteria and epilepsy, given in doses of $\frac{1}{5}$, increased to $\frac{1}{2}$ grain or more.—L. i./90,869; Th. Gaz. 1890,356; Pr. xlv.301.

Summary of therapeutic uses of gold salts:—in nervous dyspepsia, amenorrhœa, chronic Bright's disease, nervous disorders, vertigo; old syphilitic cases cured.—B B.M.J. ii./91,1133.

BALSAMUM GURJUNÆ.

Gurjun Balsam; Wood Oil.

Dose.—½ to 2 drachms.

A viscid balsam obtained from the trunk of the growing tree *Dipterocarpus turbinatus* and other species of this genus; imported from the East Indies. It is very fluorescent, has an opaque dingy, greenish grey colour seen by reflected light, yet is transparent and reddish brown in strong daylight; it has the weak aromatic odour and bitterish aromatic taste of copaiba without the acridity—has been used as an adulterant of copaiba. It is not completely soluble in either ether or alcohol; emulsified with mucilage of acacia, it is used with success like copaiba, for gonorrhœa; and, in the East, as a remedy for leprosy, an emulsion is made of equal parts of the balsam and lime-water, which is used freely as a liniment and given to the extent of 4 drachms three times daily.

As an expectorant, given with malt extract.—L. i./90, 962; Pr. xlv.132; Th. Gaz. 1890,400.

BAPTISIN.

Dose.—1 to 5 grains in a pill with mucilage of acacia. The purified extract of wild indigo, *Baptisia tinctoria*, powdered; of a light brown colour.

Is a mild laxative in small doses, and a powerful emetic and cathartic in large.

It is a moderately powerful hepatic and intestinal stimulant on dogs.—Pr. xxiii.337; B.M.J. ii./78,909.

BEBERINÆ SULPHAS.

Sulphate of Beberine (*Off.*).

Dose.—1 to 10 grains, in pills, with glycerine of tragacanth, or in aqueous solution (addition of aromatic sulphuric acid to this makes it agreeable in taste).

Is probably a mixture of the sulphates of beberine, nectandrine, and other alkaloids obtained from Bebeern bark, the bark of *Nectandra Rodiæi*, or greenheart-tree. Prepared according to the Pharmacopœia, it is in dark brown, thin, translucent scales with strong, bitter taste, soluble 1 in 80 of water, slightly in spirit. A Hydrochlorate of Beberine is also prepared, possessing similar properties and having a similar appearance. The pure salts crystallize with difficulty.

Used as a substitute for quinine in neuralgia, and as an antiperiodic. Very useful also in menorrhagia, 4-grain doses often repeated.—L. i./45,500; L. i./64,458; P.J. 1867,27.

BELLADONNA.

Deadly Nightshade (*Off.*).

The official preparations of *Atropa Belladonna* are made from the dried root, the dried leaf, and the extract from the fresh leaves and branches. The general properties of belladonna in dilating the pupil, and as a narcotic, applied externally or taken internally, are well known. Externally, its preparations are applied to relieve rheumatism, neuralgia, and as a general local sedative for pain. Internally, either alone or in combination with aloes, or sometimes with dried sulphate of iron, 1/8 to 1/4 grain of the extract is much used for habitual constipation. It checks, and even suppresses, the secretions of the glands, causes dryness of the throat and of the skin, checks night-sweats, secretion of milk, nocturnal incontinence of urine in children and nocturnal emissions. Large doses produce delirium, a scarlatina rash on the skin, the face becomes flushed, and muscular power is weakened.—R. As a prophylactic to scarlet fever, 10 grains of extract of belladonna, dissolved in 6 ounces of water, is given in teaspoonful doses.

All parts of the plant yield the alkaloids atropine and hyoscyamine.

Atropina.—See p. 69.

Chloroformum Belladonnæ, B.P.C.

Belladonna Root, bruised ...	20 ounces.
Strong Solution of Ammonia ...	1½ ,,
Distilled Water	20 ,,
Chloroform	*q.s.*

Macerate the belladonna with the ammonia and water, previously mixed, for 4 hours, dry, and reduce to No. 40 powder. Macerate for 24 hours with 20 ounces of chloroform in a percolator provided with a tap, then percolate slowly, adding more chloroform until 30 ounces are obtained. Mixes with oils; 1 to 3 olive oil is useful painful rheumatic affections.

Collodium Belladonnæ.—*Syn.* **Emplastrum Belladonnæ Fluidum, B.P.C.**

Alcoholic Extract of Belladonna 5, Spirit of Camphor 3; dissolve and add Flexible Collodion to 20. Set aside and decant.

Better results are obtained by adding the pyroxylin constituent of the collodion last. It is preferred prepared from an alcoholic extract of the leaves.

Emplastrum Belladonnæ (*Off.*).

Alcoholic Extract of Belladonna 1, Resin Plaster 2, Soap Plaster 2.

Melt the plasters in a water-bath, add the extract, and mix well. Is reddish-brown in colour, cleaner while worn, and stronger than the old preparation.

Emplastrum Belladonnæ Extensum.

Belladonna plaster in rubber combination spread on calico in porous sheets 7 in. by 5 in. and in yard rolls 7 in. wide, porous and non-porous (*American*).

Similar plasters are also prepared with belladonna and aconite combined.

Plaster mulls are spread containing 10 grammes of Extract of Belladonna in ⅕ square metre.—See p. 421.

Extractum Belladonnæ (*Off.*).

Dose.—"¼ to 1 grain," increased to 2 grains or more.

A green extract prepared from the expressed juice of leaves and young branches.

Extractum Belladonnæ Alcoholicum (*Off.*).

Dose.—$\frac{1}{16}$ to ¼ grain, or more.

An alcoholic extract prepared by exhausting 1 of root in No. 20 powder with rectified spirit 2½, displacing with water, and evaporating the percolate to an extract; it is about five times as strong as the green extract of the leaves and branches, and is useful for making belladonna plaster, suppositories, and pessaries.

Fomentum Belladonnæ R.O.H.; Midd. H.

Green Extract 60 grains to hot water 1 pint.

Glycerinum Belladonnæ, B.P.C.

Extract of Belladonna ... 1 ounce.
Boiling Distilled Water ... 1 drachm.

Rub together in a warm mortar to produce a smooth paste, and add

Glycerine ... ... *q.s.* to 2 ounces (fluid).

To check pain and inflammation, is often painted on boils, abscesses, and carbuncles, and, covered with a poultice, also applied on lint to the breasts to disperse milk. R.O.H. orders 3½ oz. of glycerine to the ounce of extract.

Linimentum Belladonnæ (*Off.*).

Prepared by percolating 20 ounces of powdered belladonna root with rectified spirit, dissolving in the percolate 1 ounce of camphor, and obtaining 30 ounces of liniment. A useful topical sedative for neuralgia and rheumatic pains.

Poisoning by above, pilocarpine an antidote.—B.M.J., i./81,594; i./90,420,720; L. ii./90,175.

Linimentum Belladonnæ Compositum.

Liniment of Belladonna 7, Chloroform of Belladonna 1.

Sprinkled on impermeable piline or the textile side of American oiled cloth, applied constantly, relieves lumbago.

Pilula Quininæ cum Belladonna, R.O.H.

Extract of Belladonna ⅓ grain, Sulphate of Quinine 1 grain, Confection of Roses *q.s.*

Pulvis Hydrargyri cum Creta, et Belladonnæ, R.O.H. *Dose.*—5 grains.

Mercury with chalk 2 parts, Belladonna Leaves, in powder, 1 part, Sugar, in powder, 2 parts.

Succus Belladonnæ (*Off.*). *Dose.*—2 to 15 minims.

Expressed juice of leaves and branches with one-third of rectified spirit added.

Is about three times the strength of the tincture.

Hay fever relieved by one minim every hour.—B.M.J. i./83,69.

Suppositorium Belladonnæ.

Extract of Belladonna Root...	½ grain.
Oil of Theobroma	15 grains.

Often ordered to be made with the green extract, but it is almost impossible to get sufficient of this to combine with the basis to be of service. Pessaries may also be made with the extract of the root containing ½ to 1 grain in each.

Tinctura Belladonnæ (*Off.*). *Dose.*—5 to 20 minims. Contains 1 of leaves in 20 of proof spirit.

Full doses are very useful for incontinence of urine.—B.M.J. i./85,279.

Tinctura Belladonnæ Ætherea.
Prepared as liniment, with pure ether *vice* spirit. Recommended for quicker absorption.—See p. 43.

Unguentum Belladonnæ (*Off.*).
Alcoholic extract 1 part to 9 parts of benzoated lard.

Berberina.—See p. 227.

BISMUTHUM (*Off.*).

Bismuthum Purificatum (*Off.*).
Is purified from other metals by first fusing with a mixture of cyanide of potassium and sulphur, and then with a mixture of dried carbonates of sodium and potassium.

Bismuthi Carbonas, Carbonate of Bismuth (*Off.*).—*Syn.* OXYCARBONATE OF BISMUTH.
Dose.—5 to 20 grains.

Pastillus Bismuthi Carbonatis (3 grains) **cum Morphinæ Acetate** ($\frac{1}{40}$ gr.).—See p. 211.

Bismuthi Citras, Citrate of Bismuth (*Off.*).
Dose.—2 to 5 grains.

Is prepared by adding a solution of citrate of sodium to a solution of true nitrate of bismuth as long as any precipitate is formed. The mixture is boiled and filtered, and the precipitated citrate of bismuth washed and dried. 800 grains of it is dissolved in weak solution of ammonia *q.s.* to form one pint of

Liquor Bismuthi et Ammonii Citratis (*Off.*).
Dose.—½ to 1 drachm.

Contains 5 grains of citrate = 3 grains of oxide of bismuth in 1 drachm; is apt to become fungoid. Evaporated to a syrupy consistence and spread on glass and dried, it produces soluble small shining translucent scales of

Bismuthi et Ammonii Citras (*Off.*).
Dose.—2 to 5 grains.

Bismuth Hair Dye.—Perfectly harmless.

Add Tartaric Acid 75 grains, dissolved in water 100 minims, to crystallized Nitrate of Bismuth (not Subnitrate) 230 grains, dissolve and pour into a pint of Water. Mix well and pour the magma on a filter, wash it with more water till no longer acid; then dissolve it by adding strong Solution of Ammonia 2 drachms; add Glycerine 20 minims, and Hyposulphite of Sodium 75 grains; dissolve and add water to measure 4 ounces. This colourless and inodorous liquid gives a deep chestnut colour to white hair after daily repeating a few times. The hair should be washed first.

Bismuthi Oxidum (*Off.*). *Dose.*—5 to 15 grains.

Is prepared by boiling subnitrate of bismuth in solution of soda, washing and drying the deposited dull lemon-yellow-coloured oxide of bismuth.

Bismuthi Oxychloridum, Oxychloride of Bismuth. *Dose.*—5 to 20 grains.

Is prepared by adding an acid solution of trichloride of bismuth to water, or by mixing a solution of true nitrate of bismuth with a solution of common salt. The basic oxychloride precipitated is well washed with water and dried. It forms the pigment known as "pearl white," and is much used as a cosmetic, to make "blanc de perle," &c. It gives a white pearly gloss to the skin. If carefully prepared, it is an impalpable, neutral, unirritating powder, and for many purposes should be preferred to the B.P. subnitrate (which is acid and crystalline), carbonate, or oxide. Even for internal administration, if most of the action of bismuth preparations be due to the mechanical coating they give to the irritated parts of the stomach or bowels, the oxychloride should be preferred, as, besides being an impalpable powder, it is a very insoluble one. It coats and adheres to the mucous membrane, and is very useful in irritated conditions of the mouth, throat, vagina, and rectum. From a quarter to half a grain may be used as an insufflation to the larynx.

Pessaries or **suppositories** may be made with oil of theobroma, containing 10 grains of the oxychloride in each.

Unguentum Bismuthi Oxychloridi.

Oxychloride of Bismuth 30 grains, Vaseline 1 ounce. Is useful for anointing the speculum previous to vaginal examinations.

Bismuthi Oxyiodidum, Oxyiodide of Bismuth. *Dose.*—5 to 10 grains.

A brownish red light amorphous powder, without taste or smell, insoluble in water, alcohol, or ether.

Has been applied as an antiseptic to ulcerous sores in place of iodoform, and injected in suspension in 100 parts of water for gonorrhœa; also as an ointment for rectal affections. Internally given for ulcer of the stomach.—B.M.J. i./89,783.

Bismuthum Peptonatum.

Dose.—80 grains, more or less.

A dry, brown powder, which contains 3·5 per cent. of oxide of bismuth in an assimilable form.

Bismuthi Salicylas, Basic Salicylate of Bismuth. *Dose.*—5 to 20 grains.

A white or pinkish-white powder, obtained by the decomposition of true nitrate of bismuth and a solution of salicylate of sodium; is insoluble in water, alcohol, and glycerine. Has been used with advantage in some forms of diarrhœa, typhoid fever, &c.—P.J. 1883,243, 568; 1885,889; L. i./88,1100; B.M.J.E. i./92,99.

Valuable remedy for gastric catarrh.—L. ii./86,31.

Bismuthi et Cerii Salicylas.

A double salt, resembling the above, has also been recommended for sickness, diarrhœa, dysentery, and ulceration of the bowels. *Dose.*—5 to 20 grains.

Bismuthi Subnitras (*Off.*). *Dose.*—5 to 20 grains. —*Syn.* OXYNITRATE OF BISMUTH.

Is prepared purest by adding to a quantity of water the large crystals of true nitrate of bismuth, obtained by concentrating a solution of bismuth in nitric acid and setting aside to cool; many impurities remain in the mother liquor. The subnitrate, deposited as above, is washed, pressed, and dried. To obtain a fine powder, it is afterwards generally levigated. It should be remembered that this preparation from its nature is always *acid* in reaction; it is therefore incompatible with alkaline carbonates—many bottles of medicine so prescribed burst in transit. Best suspended in aqueous vehicle by 10 grains of Compound Powder of Tragacanth to the ounce.

Trochisci Bismuthi (*Off.*).

Contain 2 grains subnitrate of bismuth in each, with about 2½ grains of carbonate of magnesium and 4 of carbonate of calcium—incompatible.

Trochisci Antacidi.—See p. 498.

Pulvis Bismuthi Compositus (Ferrier's Snuff). Hydrochlorate of Morphine 2 grains, Powdered Acacia 2 drachms, Subnitrate of Bismuth 6 drachms.

From a quarter to one-half the above to be used as snuff in 24 hours for catarrh.—L. i./76,525. For acute coryza, powdered cubebs may be added.

Dermatol. A trade name for Sub-Gallate of Bismuth. An odourless yellow, insoluble powder, recommended as a powerful non-irritant antiseptic and desiccant. Lessens secretion from weeping surfaces; may be used as a dusting powder alone or with starch.

Resembles powdered iodoform in appearance, but is free from odour and poisonous properties. Applied to fresh clean wounds promoted rapid cicatrization and kept wound dry. Is less suited to septic wounds, and insufficiently stimulating in chronic indolent ulcers.—B.M.J.E. ii./91,86,198; Pr. xlviii.214; P.J. 1891, 1169,82; M.C. Nov. 1891,114; Ed. M.J. 1891,270.

Bacteriological experiments; in wet cultures was a quicker microbicide than iodoform or aristol. Given internally for diarrhœa with good results, in doses of 80 to 90 grains daily.—B.M.J.E. i./92,16.

Ten per cent. ointment with vaseline recommended for burns and eczema of children.—B.M.J.E. i./92,52.

Cases of ulcer of leg treated without effect; in one case caused fever, headache, and irritable rash with blisters. Is in every sense inferior to iodoform.—B.M.J.E. i./92,8.

BROMAL HYDRAS.

Hydrate of Bromal.

Dose.—2 to 5 grains—3 grains at bedtime for relieving pain or producing sleep.

In large oblique colourless prisms, which melt on the hand, and are not quite so soluble or readily soluble in water as chloral hydrate. Applied externally to the skin, it causes irritation and great infiltration of the tissue, as when dry cupping-glasses are used. It is not suitable for internal exhibition, as it causes pyrosis, vomiting, and diarrhœa.—B. & F. M. Ch. Rev. i./72,509.

It is much more active physiologically than chloral hydrate.—B.M.J. ii./74,805.

In epilepsy, tried without success.—Stillé and Maisch.

Relieves inflammatory fever of acute gout.—B.M.J. ii./88,151.

Bromoform. *Dose.*—5 to 20 "drops" (= 1 to 4 minims) per diem.

A limpid, colourless, sweet liquid, with an agreeable odour; sp. gr. 2·9. Soluble in alcohol and ether, slightly so in water. Useful in whooping-cough.—L. ii./89,397.

100 cases of whooping-cough; arrests the vomiting; no failures.—M.C. April 1890,47; Pr. xlv. 47; L. ii./90,139; Th. Gaz. 1890,607,695.

Bromoform in whooping-cough is harmless, diminishes number, duration, and severity of attacks, and mucous secretion is more easily got rid of. Vomiting and hæmorrhage soon cease. Two cases of overdose have occurred, but yielded to prompt restoration.—B.M.J.E. i./91,94; Ed.M.J. 1891,471; Th. Gaz. 1891,770.

BRUCINA.

Brucine.—*Syn.* Brucia.

Dose.—$\frac{1}{12}$ grain increased up to $\frac{1}{2}$ grain.

An alkaloid obtained along with strychnine from the seed of *Strychnos Nux-vomica*, and other species of Strychnos. In small white acicular crystals, with bitter taste. Very soluble in alcohol, soluble 1 in 100 of chloroform, 1 in 850 of cold water. Its salts are more soluble in water. It, as well as morphine, gives an intense red colour with nitric acid, which strychnine, if pure, does not. Brucine is difficult to obtain perfectly free from strychnine. It is said to possess only $\frac{1}{24}$ the physiological power of strychnine.—P.J. 1877,652,666.

For epilepsy, has curative properties, given as liquor, same strength as liquor strychninæ, 10 minims twice a day, increased every third day by 5 minims, until half a grain is reached.—L. i./69,75.

Note on physiological action.—L. i./83,30.

BRYONIA.

Bryony.—*Syn.* Vitis alba; White Bryony.

Tinctura Bryoniæ, B.P.C.

From bruised fresh roots of *Bryonia alba* or *B. dioica* a tincture is prepared corresponding in strength, to 1 of dried root to 10 of proof spirit.

Dose.—1 to 10 minims or more.

Useful in pleurisy. Given in small doses, it relieves the pain and allays the cough. In large doses it is an active hydragogue cathartic, sometimes used for dropsy. The fresh plant applied to the skin will cause vesication. It contains Bryonin, a bitter principle, soluble in water and alcohol, insoluble in ether.

Bryony successful as a styptic. An infusion of 1 in 10 arrested metrorrhagia.—L. ii./88,438.

Bryonia Alba as a styptic.—Nouv. Remèdes; 1889, Nov. 576; M.C. April 1890,47; Pr. xlv.132.

Useful in checking inflammatory pleurisy and assisting absorption of fluid.—B.M.J. i./92,1137.

Byne.—See Maltum, p. 264.

BUTYL-CHLORAL HYDRAS.

Hydrate of Butyl-Chloral (*Off.*).—*Syn.* CROTON-CHLORAL HYDRATE, wrongly so called.

Dose.—2 to 15 grains or more, in pills or cachets.

In pearly-white crystalline scales, having a pungent odour resembling that of Chloral Hydrate, and an acrid, nauseous taste. Soluble 1 in 100 of cold water; freely soluble in rectified spirit, and about 1 in 4 of glycerine.

It is, perhaps, the most efficacious remedy in facial neuralgia.—R.

Menthol 2, with Butyl-Chloral Hydrate 1 part liquefies. —See p. 269. Combines with Antipyrine, see p. 135.

Mistura Butyl-Chloral, T.H.

Hydrate of Butyl-Chloral 4 grains, Glycerine 15 minims, Water to 1 ounce.

This dose is very useful as an anodyne in neuralgic affections of the throat, frequently repeated.

Pilula Butyl-Chloral.

Hydrate of Butyl-Chloral 3 grains or more, Glycerine of Tragacanth or Mucilage of Acacia *q.s.* To make one pill. *Dose.*—1 every 2 hours, or hourly.

Pilula Butyl-Chloral cum Gelsemina.

Hydrochlorate of Gelsemine $\frac{1}{100}$ grain, is added to each of the above and, for facial neuralgia, given similarly.

Syrupus Butyl-Chloral, B.P.C.

Hydrate of Butyl-Chloral 16 grains, Syrup 1 ounce. Dissolve the hydrate in the syrup made hot.

Dose.—One to four drachms repeatedly.

Relieves paroxysmal neuralgic pains in the regions supplied by the fifth nerve.—L. ii./72,558.

For toothache of pregnancy and neuralgic toothache, doses of 5 to 15 grains internally; and used also locally. —Pr. xix.382.

It produces slumber without the lowering of the pulse, which chloral itself causes.—Br. i./75, 336.

Cured cases of paroxysmal headache in females suffering from mental distress and facial neuralgia; useless in pain from decayed teeth.—B.M.J. i./79,667.

Most useful in true migraine, given with antipyrine, cannabis, or gelsemium; neuralgia of other nerves than the cranial rarely benefited.—Pr. xlvi.296; M.C. May 1891,140.

Cachets.—See p. 333.

CAFFEINA.

Caffeine (*Off.*).—*Syn.* Caffeia, Theina, Guaranina.

Dose.—½ to 5 grains or more—as much as 18 grains being recommended—given in solution, or in pills with glycerine of tragacanth.

A crystalline principle usually obtained from the dried leaves of *Camellia Thea,* or dried (?) coffee-seeds —*Coffea arabica;* also contained in guarana (p. 215), maté,—the leaves of *Ilex paraguayensis*—and kola nuts —the seeds of *Sterculia acuminata,* growing in Western Africa; it is identical with Theine and Guaranine. Caffeine and Theobromine (see p. 394) can be prepared from Xanthine (the latter being di- and Caffeine tri-methyl-xanthine) and indirectly from guano, as Xanthine may be obtained as a derivative of Guanine contained in guano. Caffeine is in slender needles like white silk, is soluble 1 in 100 of water, 1 in 25 of rectified spirit; is insoluble in absolute alcohol, but soluble in ether; acids render it more soluble in water, but it is a feeble base, and on concentrating the solution of the salts they are apt to split up, and the caffeine crystallizes out by itself. It has a bitter, not agreeable taste. It stimulates the heart and raises arterial tension. In excessive doses it causes rise of temperature, convulsions, and paralysis. It is given for hemicrania. Locally, to the eye, it dilates the pupil.

Tea contains on an average 4 to 4⅛ per cent. of Caffeine; raw coffee about 1·2 per cent., and when roasted about 1·3 per cent.—P.J. 1887,417,565.

Kola.—Description of, and uses.—B.M.J. i./90,970; Ed. M.J. 1890,276.

Maté or Paraguay tea, properties and uses. It contains one-fourth as much caffeine as tea, and is slightly less astringent.—B M.J. ii./90,203; Th. Gaz. 1890,633.

Caffeinæ Citras (*Off.*).

Dose.—½ to 5 grains or more.

Is directed to be prepared by dissolving caffeine 1 and citric acid 1 in distilled water 2, evaporating to dryness on a water bath, stirring constantly towards the end of the operation, and reducing to a fine powder.

A citrate was formerly met with in opaque white needle-like crystals or masses of crystals; it was a doubtful salt. The true salt can be had, the official is too acid.

Caffeine Tablets contain 1 grain of the citrate.

Granular Effervescent Citrate of Caffeine is prepared, containing a grain in a drachm, and

Granular Effervescent Citrate of Caffeine, with Bromide of Potassium, has in addition 2 grains of the latter salt to the drachm.

Caffeinæ Ammonio-Citras. *Dose.*—1 to 10 grains. A minutely crystalline white powder, slightly soluble in water.

Caffeinæ Hydrobromas.

Dose.—½ to 5 grains or more.

In short acicular crystals, shorter than the citrate.

Granular Effervescent Hydrobromate of Caffeine is prepared, containing a grain in a drachm.

Caffeinæ Sodio-Salicylas.

Dose.—1 to 4 grains hypodermically.

A white amorphous powder, containing 62·5 per cent. of caffeine, and soluble 1 in 2 of water. This salt and the corresponding cinnamate and benzoate are preferred in Berlin; they act like digitalis, but more rapidly.—Edin. Med. Jour., 1884,390.

Caffeine is very soluble in aqueous solutions of benzoate, cinnamate, and salicylate of sodium. These dissolve it in chemically equivalent quantities. The following salicylate of sodium solution of it forms an unirritating hypodermic injection. See also Antipyrine, p. 135.

Injectio Caffeinæ Hypodermica.

Caffeine 20 grains, Salicylate of Sodium 17½ grains, Distilled Water to 1 drachm. *Dose.*—1 to 6 minims, contains 1 grain in 3 minims. Particularly recommended for alcoholic and morphine intoxication, also for hemicrania. Use in Eucalyptus poisoning.—B.M.J. i./88,849.

Hypodermic Lamels are prepared, containing ¼ grain Caffeine in each.

Caffeinæ Sulphas. *Dose.*—½ to 5 grains or more.
A minutely crystalline white powder, soluble about 1 in 40 of water.

Caffeinæ Tri-iodidum. **Di-iodo-hydriodate** of **Caffeine.** *Dose.*—2 to 4 grains.

In prismatic iridiscent crystals, rich in iodine.

Caffeinæ Valerianas. *Dose.*—½ to 3 grains.

In irregular crystals or powder, having the odour of valerian.

Antagonism between caffeine, theine, guaranine, cocaine, as well as tea and coffee, and morphine and opium.—B.M.J. ii./74,615,674,697,771.

Useful in cardiac disease, especially where dropsy is a marked symptom. Is apt to induce insomnia. Large doses are required. It is better borne than digitalis.—L. ii./82,909; i./83,909; B.M.J. i./80,443.

Theine, caffeine, and guaranine are chemically and physiologically identical. Excessive doses produce in animals paralysis of sensibility, tetanic spasm, and convulsions.—R.

A stomachic tonic, lessens tissue change, and waste. Has been given in cases of diarrhœa, phthisis, and neuralgia.—B.

Useful in unilateral headaches in doses varying from 1½ grain to 18 grains.—Binz.

Is a diuretic, and relieves cardiac dropsy in cases where a feeble, dilated, and irregularly contracting heart is undergoing progressive mural decay. Dose, 3 to 6 grains.—Pr. xxii.23.

Combined with paraldehyde, for diuretic uses in heart disease.—C. and D., 1887,242.

Mitral obstructive disease relieved by caffeine combined with convallaria.—L. ii./87,202.

A grain and a half of the valerianate three times a day checks nervous vomiting in hysteria. It increases appetite and nerve power. Is useful for pertussis.—M.R. 75,295.

Hydrobromate of caffeine is a diuretic, used hypodermically, and the citrate gives great relief in cardiac dropsy.—M.T.G. ii./77,662.

Is tonic and restorative, relieves a palpitating adynamic heart. One grain doses given for hemicrania and neuralgia. An ordinary cup of tea probably contains $\frac{1}{10}$ grain of Caffeine.—M.T.G. ii./81,33.

Caffeine acts on the heart in large doses like digitalis, but is apt to produce insomnia and nervousness.—L. ii./82,909; Pr. xxxiii.218; Pr. xxxiv.139.

Poisoning by 60 grains of citrate caused burning in throat, giddiness, violent vomiting, purging and diuresis, tremors of extremities, pain in stomach and bowels, and great thirst. Recovery: treated with nitro-glycerine, &c.—L. i./83,680. Poisoning by 200 grains; recovery under $\frac{1}{12}$ grain apomorphine.—L. i./89,219; Th. Gaz. Mar. 1889,215.

Caffeine useful in pneumonia as a cardiac stimulant; pulse improves and temperature falls.—B.M.J. ii./88,43. Also in typhoid.—Pr. xli. 138.

Caffeine facilitates muscular labour by increasing activity of cerebro-spinal centres; diminishes sensation of effort and keeps off fatigue.—B.M.J. i./90,735,746; Ed. M.J. Sept. 1890,276.

Its administration places an untrained man in the position of a trained one as regards special exertion.—L. i./90,677.

Caffeine of great service in renal insufficiency, as injection with sodium benzoate.—Th. Gaz. 1890,436.

Hypodermic injection of caffeine in post partum hæmorrhage, 3 or 4 syringefuls, 4 grains caffeine in each, dissolved by means of sodium benzoate.—Th. Gaz. 1890,699; Pr. xlvi. 295.

Calamina Præparata (*Off.*).—See p. 259.

CALCII CHLORIDUM.

Chloride of Calcium (*Off.*).

Dose.—10 to 20 grains in aqueous solution, or it is more palatable made into pills with syrup; these must be kept in bottles.

According to the pharmacopœia chloride of calcium, anhydrous and most convenient for use in medicine, is in fused white agglutinated masses, dry, but very deliquescent. The porous dried chloride is better adapted for chemical purposes for absorbing water. Crystals of chloride of calcium are very deliquescent and unmanageable, as they dissolve in one-fourth their weight of water. Chloride of calcium is given in tubercular disease and glandular affections. It is not astringent. It has been recommended as a disinfectant.

Liquor Calcii Chloridi (*Off.*).

Dose.—15 to 50 minims; is 1 to 5 of distilled water.

Chorea, eight cases in children, cured by doses of 7 to 15 grains daily.—M.T.G. ii./75,663.

In tubercular diseases, phthisis and all wasting diseases of children, has great power in controlling. For adults, 30 grains three times a day.—L. ii./77,275.

It is said to check the growth of uterine fibroids, some think it tends to cure them by aiding a process of calcareous degeneration.—L. ii./73,1.

In sarcinæ, the vomiting is checked by 30 to 60-grain doses.—M.T.G. i./60,401.

In scrofula, is a valuable general tonic, slows and strengthens the pulse; best given to children in milk, after food.—Pr. xxxiv.161.

Calcii Salicylas.—See p. 28.

CALENDULA.

Marigold.

From the fresh leaves and flowers of this plant, *Calendula officinalis*, a Tincture is prepared equal in strength to 1 of the dried drug in 10 of equal parts rectified spirit and water.

A lotion prepared from the tincture diluted, or an ointment prepared from tincture 1 part, and spermaceti or simple ointment 9 parts, is said to have a beneficial influence over wounds, especially incised wounds. It promotes cicatrization, with but little suppuration.

One minim of tincture with boric acid 2 to 4 grains is a useful insufflation in otorrhœa.—Pr. xxx.366.

Tinctura Calendulæ Florum, B.P.C.

Dose.—5 to 20 minims.

Marigold Flowers, in No. 20 powder ...	4 ounces.
Proof Spirit	*q.s.* to 1 pint.

Moisten the powder with 8 ounces of spirit, macerate 24 hours, and percolate to 1 pint.

CALX SULPHURATA.

Sulphurated Lime (*Off.*). — *Syn.* CALCII SULPHIDUM; SULPHIDE OF CALCIUM; CANTON'S PHOSPHORUS.

Some forms of it after being heated shine in the dark and are used to make luminous paint.

Dose.—$\frac{1}{10}$ to 1 grain in a pill.

A mixture containing not less than 50 per cent. of true Monosulphide of Calcium. It is directed to be prepared by deoxidizing Sulphate of Calcium, by mixing it with wood charcoal and heating the mixture in a crucible until the black colour disappears. The residue when powdered has a dirty white colour and slight sulphuretted odour; it is but sparingly soluble in water, which solution quickly decomposes, evolving sulphuretted hydrogen. In thus liberating this gas, sulphide of calcium possesses properties allied to the sulphurous springs of Harrogate, Barèges, Gilsland, &c. It is found very useful administered for boils, carbuncles, acne, scrofulous sores, especially in glands of the neck, by hastening maturation and preventing formation of fresh boils, &c. For boils, &c., $\frac{1}{10}$ grain is given every hour. For suppurating glands in the neck, $\frac{1}{2}$ to 1 grain every two hours, continued for weeks, is very beneficial.—R.

Pilula Calcis Sulphuratæ, $\frac{1}{12}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, and 1 grain.

These pills are best prepared by triturating the sulphurated lime with sugar of milk, adding acacia and syrup *q.s.*, rolling into pilules and coating with sandarach solution. Keep in bottles.

Dose.—1 every hour, or every 2, 4, or 6 hours as above, according to the state of the disease, whether acute or not.

On the addition of a dilute acid to sulphurated lime mixed with water, it gradually evolves sulphuretted hydrogen, and may be made use of for producing artificial sulphurous waters.

Cases of acne of the face cured by ¼ to ½ and 1 grain doses 3 to 6 times a day.—L. ii./78,215.

Useful in boils and skin affections, also in diphtheria and croup—the false membrane is detached and expelled. L. i./82,296; Pr. xlii.211; Th. Gaz. 1890,305.

In strumous ophthalmia, 5 cases, doses of $\frac{1}{10}$ to ¼ grain effected cures.—Pr. xxviii.17.

In periostitis and alveolar abscesses found of great service.—Stocken's Dental Mat. Med., 2nd ed., 143.

Usual dose is too small for boils; give 1 grain three times a day, increased to 8 grains daily.—L. i./85,64.

Suggested use in diabetes.—L. i./88,868.

Lotio Calcii Sulphurati, U.C.H.

Slaked Lime 4 ounces, Sublimed Sulphur 4 ounces, Distilled Water 35 ounces.

Boil together, evaporate, and filter, to produce 1 pint of solution. This should be diluted with an equal quantity of warm water for painting over the patient, who ought previously to have had a bath, as a remedy for itch, which it will cure in half an hour. It holds in solution pentasulphide of calcium with some oxysulphide, and resembles in composition **Vlemingkx' Solution.**

Sulphurated Lime Depilatory.

Is a thick milk of lime charged with sulphuretted hydrogen. A less unpleasant, but equally efficacious, application is

Sulphide of Barium Depilatory.

Sulphide of Barium, in fine powder	1 part
(Or less or more, up to 3 parts, if ordered).	
Starch Powder	3 parts.

Make into a cream with water. When required for use, spread it on the part and let it remain five or ten minutes, then remove with a blunt knife. N.B.—It temporarily reddens the skin.

The safest and best depilatory.—M.C. Feb. 1892,322; B.M.J. i./92,639.

Unna recommends equal parts of sulphide of barium, starch, and oxide of zinc.

Syrupus Sulphatum (H. P. Symonds).

Dose.—½ an ounce. Sulphate of Beberine 1 grain, Sulphate of Quinine 2½ grains, Sulphate of Iron 2½ grains, Sulphate of Potassium 8 grains, Sulphate of Sodium 8 grains, Diluted Sulphuric Acid 5 minims, Glycerine 12 minims, Distilled Water 48 minims; dissolve and add Syrup to ½ ounce. Filter. Add to each pint, Chloroform 10 minims, mixed with 20 minims of Spirit.

Is useful for boils, &c. The sulphates give off some sulphuretted hydrogen, and the bases act as tonics.

Pilulæ Sulphatum.

The salts of half-an-ounce of the above syrup may be prescribed in two pills under this name.

CAMPHORA.

Camphor (*Off.*).

Dose.—1 to 10 grains in a pill, or alcoholic solution dropped on sugar or in water, or as camphor water. Camphor, besides being sold in bells, is now prepared in rectangular blocks, as well as in a sublimed powder, **Flowers of Camphor.** The latter is a very convenient form for making pharmaceutical preparations.*

Camphor is soluble in water, 1 in 1,300 (more is dissolved if kept slightly warm), in rectified spirit 1 in 1¼ (more soluble in absolute alcohol), freely soluble in ether, chloroform, volatile and fixed oils. Camphor, when mixed in certain proportions with many crystalline substances, causes mutual liquefaction of the two—

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* An Essential Oil of Camphor is imported from Japan, generally of a pale straw-colour but varying in shade to a deep black. It has Sp. Gr. 0·898 to 0·990; is a bye-product obtained in the production of camphor, and consists principally of a terpene, with about 1 in 4, or a variable quantity, of the stearoptene, camphor in solution, together with safrol and eugenol (see p. 416). It has a persistent odour, like that of camphor and sassafras or cinnamon. Similar productions have at times come from Formosa and Borneo. They are used by the Chinese as rubefacients in rheumatism, and may prove useful as antiseptics.—P.J. 1885,302; 1887,266.

e.g., camphor 4, phenol 12, and water 1 (see Acidum Carbolicum); camphor 1, and chloral hydrate 1 (see Chloral Hydras); camphor 2 and menthol 3 (see Menthol); camphor 1 and thymol 1 (see Thymol); camphor 2 and β-naphthol 1 (see Naphthol); camphor 2 and salol 3 (see Salol); camphor and butyl-chloral hydrate liquefy when heated, but solidify on cooling; so will camphor 34 and salicylic acid 65 (see Camphora Salicylata). Camphor is powdered by rubbing with a few drops of spirit. Besides the official preparations, Camphor Water* (Camphor Mixture) 1 in 1,000 to 1,300, Liniment 1 to 4, Compound Liniment 1 to 8, Spirit 1 to 9, and Compound Tincture 1 in 240, the following are in use:—

Camphor Ball.

Spermaceti 4, White Wax 12, Oil of Almonds 5; melt in a water bath, and add Flowers of Camphor 4. Dissolve, and when nearly cold pour into boxes or mould in gallipots. Useful for chapped skin.

Camphorated Chalk.

Flowers of Camphor 1, Precipitated Carbonate of Calcium 7. Mix in a mortar, adding a few drops of rectified spirit, and sift for use as a dentifrice.

Carbolate of Camphor.—See p. 8.

Elixir Camphoræ. *Dose.*—½ to 1 drachm.

Spirit of Camphor 10 drachms, Syrup 5 drachms, Distilled Water 1 drachm. Contains 4 grains of camphor in 1 drachm. It mixes and diffuses well in water.

Flowers of Camphor.—See p. 94.

Naphthol cum Camphora.—See p. 284.

Pilula Camphoræ.

The most suitable excipient to form camphor into pills is about ¼ its weight of powdered curd soap and a few drops of proof spirit, or a little lard in a warm mortar.

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* Aqua Camphoræ is uncertain in strength. The water dissolves much more of the camphor if kept in a slightly warm place. A definite quantity of camphor, dissolved in a small but certain quantity of spirit, and this added to a measured quantity of water, would make a more uniform preparation. It is rendered more soluble in water by the presence of carbonic acid, acid carbonate and carbonate of magnesium, sugar, and myrrh, and less soluble by bromide of potassium, liquor potassæ, sulphate of magnesium, alkaline carbonates, and many other salts.

Pilules and lozenges of camphor are prepared by confectioners, of uncertain strength.

Salol cum Camphora.—See p. 32.

Spiritus Camphoræ Fortior.

Syn. RUBINI'S SOLUTION OF CAMPHOR.

Dose for Diarrhœa.—2 to 5 drops on sugar every 5, 10, or 15 minutes, according to the severity of the symptoms.

Flowers of Camphor 1 ounce, Absolute Alcohol (by weight), 1 ounce. Produces slightly over 2 fluid ounces, and contains nearly 1 grain in 2 minims.

Camphoid, a substitute for Collodion.

A solution, 1 in 40, of pyroxylin, in equal parts by weight of camphor and absolute alcohol. May be used as a vehicle for the application to the skin of such drugs as iodoform, carbolic acid, salicylic acid, resorcin, iodine, chrysarobin, and ichthyol. It may with advantage be made to contain half the above quantity of camphor, except in the case of iodoform, which dissolves in it to the extent of 1 in 10. The preparation dries in a few minutes, leaving an elastic opaque film, which is not easily washed off.—P.J. 1892,831; B.M.J. i./92,1086.

Acidum Camphoricum, **Camphoric Acid.**

Dose.—10 to 20 grains, increased, in cachets.

An acid formed by oxidation of camphor with nitric acid, in white micro-crystalline powder, very slightly soluble in water, with a faintaromatic odour, and slight saline camphor taste. Some is formed in "Sanitas" (see p. 334).

Used with success in night sweats of phthisis (in 60 per cent. of cases), also in cystitis, and as an intestinal disinfectant. Is eliminated with the urine, which it renders clear and acid, in 2 to 5 hours. Two cases of phthisical diarrhœa, unaffected by other remedies, arrested by three 1-gramme doses.—L. i./92,47; B.M.J. i./92,947; Th. Gaz. 1890,260.

Camphora Monobromata, Monobromated Camphor, Monobromide of Camphor. *Dose.*—2 to 10 grains in pills, with ⅛ of its weight of curd soap and proof spirit *q.s.*

A substitution compound in which one atom of hydrogen in camphor is replaced by bromine. In colourless prisms, soluble in ether, alcohol, and fixed oils, insoluble in water. It has a slight odour of camphor and a turpentine-like taste. It is used as a hypnotic; large doses produce clonic convulsions and muscular trembling.

Perles are prepared containing about 2 grains in each. The following is also recommended, but it is strongly alcoholic and very nauseous :—

Elixir Camphoræ Monobromatæ.

Monobromated Camphor 20 grains, Spirit of Cinnamon (1 in 50) 15 drachms; dissolve and add Red Elixir (see p. 180) 20 drachms, Syrup *q.s.* to 5 ounces. *Dose.*—½ an ounce (contains 2 grains).

Experiments on animals. It lowers circulation, respiration and temperature.—Pr. xiii.113.

Not suitable for asylum practice, on account of its comparative insolubility in any but irritating media.—Pr. xiii.324.

Physiological experiments on rabbits and therapeutic uses. Has risks of gastric irritation given by mouth, and cutaneous inflammation used hypodermically.—Pr. xiv.262.

Results of its use in Paris favourable as a hypnotic in nervous diseases.—L. ii./75,215.

In delirium tremens 7-grain doses often repeated is recommended, also in insomnia, chorea, and hysteria.—B.F.M.Ch.R. lviii.459; L. ii./76,698.

In whooping-cough of children, 5-grain doses serviceable, and useful in asthma.—B.

Used in epilepsy, without good results.—L. i./80,553; B.M.J. i./80,548.

Combined with belladonna, useful in enuresis where potassium bromide unsuitable.—Pr. xliii.141; B.M.J. i./89,1463.

Camphora Salicylata, Salicylated Camphor, Salicylate of Camphor. *Dose.*—1 to 5 grains, in a pill, with a sixth of its weight of suet or lard.

Prepared by heating together carefully 84 parts of camphor and 65 parts of salicylic acid, until a liquid homogeneous solution is formed, which becomes a crystalline mass on cooling. This again becomes unctuous when pounded, and liquefies when rubbed on the skin. It may be obtained in definite crystals from a benzol solution. It is slightly soluble in water and glycerine, about 1 in 20 of fats and oils, and is decomposed by hot alkaline solutions. By boiling with water it hydrates into an oily liquid. Applied as an ointment, it was found useful in lupus and rodent ulcers.—P.J. 1881,438, *ex* Annali di Chimica, lxxiii.193.

May prove serviceable in some forms of diarrhœa and to form antiseptic dressings.

CANNABIS INDICA.

Indian Hemp (*Off.*).

Extractum Cannabis Indicæ (*Off.*).

Dose.—¼ to 1 grain, in pill with lycopodium.

Is an alcoholic extract, of which 1 dissolved in 20 of rectified spirit forms

Tinctura Cannabis Indicæ (*Off.*).

Dose.—5 to 20 minims, suspended in some mucilaginous fluid.

Cannabis is useful for chordee and asthma, and as an aphrodisiac.

It is *the* remedy for menorrhagia.—B.M.J. i./83,1002.

For dull continuous headache, the extract is very useful, in doses of ⅓ to ½ grain.—B.M.J. i./87,97.

Valuable alike for anorexia, insomnia, and diarrhœa.—Pr. xl.95.

A report on the various preparations of cannabis.—B.M.J. ii./87,266.

Very useful in dyspepsia, diarrhœa, and summer cholera.—Pr. xxxix.8; xlv.220; L. ii./87,536; ii./90, 261,592,631; B.M.J.E. ii./90,39.

Cannabis successful in migraine; ⅓ grain extract regularly taken; no unpleasant symptoms induced, and no craving follows.—Pr. xli.35.

Should be given in minimum doses, gradually increased. Toxic effects.—L. i./90,621,637,723.

Cannabis useful in dysmenorrhœa, especially with gelsemium; with nux in incipient delirium tremens, nausea, and paroxysmal colic; in menorrhagia, supraorbital neuralgia, and cough of phthisis. Should be given in small and frequent doses.—Pr. xlv.375; Th. Gaz. 1890,523.

Cannabis of great use in mental worry and restlessness, combined with strychnine, with chloral in chorea, and alone or with ¼ gr. zinc phosphide in migraine.—B.M.J. ii./91,12; Pr. xlvii.140,296.

Cannabin Tannas, Cannabin Tannate.

Dose.—2 to 10 grains, increased to 20, 4 grains being an average dose, taken an hour before bedtime, in a pill with glycerine of tragacanth or in solution of sal volatile and water.

A yellowish brown powder, prepared from *Cannabis Indica.* Tastes like tannin, has a not unpleasant smell, is insoluble in water and ether, slightly soluble in alcohol, and dissolves easily in water made slightly alkaline. It is stated to be free from the two volatile oils contained in *Cannabis Indica,* which are rapidly-acting irritating poisons. It does not produce intoxication, and is said to be a useful hypnotic, that, unlike opium and morphine, it rarely or never deranges the digestive and secretory organs, bowels, &c., and is specially valuable in nervous sleeplessness and in acute mania; 8-grain doses produce calm and quiet sleep.

In insomnia good effects were produced in 37 out of 63 cases, moderately good in 15. The patients awoke with no toxic after-effects.—Pr. xxix.377; M.P.C. ii./82,268; M.R. 1882,453.

Cannabin Tannate most useful hypnotic and in treatment of hysteria, but does not generally replace cannabis.—Th. Gaz. 1890,523; Pr. xlv.375.

Cannabina, Cannabine (pure alkaloid).

Dose, in pills.—1 to 5 grains daily in divided doses.

A translucent brown syrupy liquid, with the odour of Indian hemp, said to be purely hypnotic in its action.

Cannabinon. *Dose.*—¼ to 1 grain.

A purified resin, dark brown in colour, and of the consistence of treacle. Has also been used as a sedative in doses to relieve mania, hysteria, and sleeplessness, and is said to be more certain and powerful than the tannate of cannabin. For dispensing purposes, a dilution is made of 1 to 9 of sugar of milk.

On haschisch pure and cannabinon, use contra-indicated when heart disease exists.—L. i./87,542.

CANTHARIS.

Cantharides (*Off.*).

Syn. LYTTA; SPANISH OR BLISTERING FLY.

Dose.—$\frac{1}{16}$ to ¼ grain in pill. Better given as tincture. Of this, the dried insect—*Cantharis vesicatoria*—there are the following preparations official:—Acetum, 1 in 10; Emplastrum, 1 in 3; Tinctura, 1 in 80; Unguentum, 1 in 7; Charta Epispastica; Liquor Epispasticus, 1 in 4 (see below); and Emplastrum Calefaciens, 1 in 25. The medicinal properties of cantharides are due to a neutral crystalline principle

Cantharidin, in flat glistening rectangular prisms, which melt at 200° C., and volatilize in very irritating white fumes. It is soluble 1 in 84 of chloroform, 1 in 38 of acetone, and about 1 in 100 of acetic ether. Soluble also in ether, benzene, glacial acetic acid, fats and oils, 1 in 3,300 of alcohol, insoluble in water. Solutions of Cantharidin, as well as other preparations of cantharides, are employed for stimulating the growth of the hair, in alopecia, and preventing its falling off, as in the following preparation:—

Linimentum Crinale (Squire).

Cantharidin 1 grain, Acetic Ether 6 drachms; dissolve with a gentle heat, and add Rectified Spirit 3 ounces, Castor Oil 1 ounce, Oil of Lavender 15 minims.

This is too strong to be used freely. It is better to dilute it with an equal quantity of spirit, and the head should be washed after applying it a few times, to prevent the cantharidin accumulating.—L. ii./79,713.

Effects of poisoning by, on kidney and bladder.—L. i./80,261; Pr. xxv.53.

Anodyne Vesicant. Camphor 20, Hydrate of Chloral 30, place in a bottle, liquefy by heat of water bath, and add Cantharides 10. Digest at 140° to 160° F. one hour, and strain with pressure.

Collodium Vesicans (*Off.*).

Blistering Liquid 20 ounces, Pyroxylin 1 ounce.

Dissolve. It evaporates quickly, and its action is confined to the part on which it is painted. It is specially useful to apply to the temple or behind the ear, or other parts of the body where the following preparation would not locate itself. It is now made too viscid; half the quantity of pyroxylin is generally sufficient.

Liquor Epispasticus, Blistering Liquid* (*Off.*).

Cantharides in powder ...	5 ounces.
Acetic Ether	*q.s.*

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* This preparation and the corresponding Collodion are proved too weak for many purposes. In these cases similar preparations of the strength of 8 ounces to the pint may be

Pack the cantharides in a percolator and moisten with 3 ounces of the ether. After 24 hours, add more acetic ether, and continue the percolation slowly, till one pint of percolate is obtained.

Liebreich's Solution of Cantharidate of Potassium for Tuberculosis.

Cantharidin 2, Hydrate of Potassium 4 (or Hydrate of Sodium 8), Distilled Water 200. Heat to dissolve, and add Distilled Water *q.s.* to 10,000.

Dose by hypodermic injection.—$\frac{1}{2}$ to 1 c.c. (8 to 16 minims), containing 1 to 2 decimilligrammes ($\frac{1}{650}$ to $\frac{1}{325}$ grain), of cantharidin. Causes transudation of blood serum at the seat of tuberculosis.

This solution preferable to the cantharidates which are variable in strength —L. i./91,559,618,677; B.M.J. i./91,475,550; B.M.J.E. i./91,85; M.C. April 1891, 42; Th. Gaz. 1891,267.

Cases of phthisis and laryngeal tuberculosis improved by its use.—B.M.J.E. i./91,165,198.

Results not encouraging, besides intense pain caused by injections.—B.M.J. i./91,933; B.M.J.E. i./91,150; ii./91,111.

Beneficial results in lupus, granular lids, and laryngeal phthisis; no effect on tuberculous processes in lungs; neither sets up nor reduces fever, and has no effect on number or shape of bacilli. On the whole is decidedly beneficial in some cases, and deserves further trial. Does not give rise to any serious complication, and involves no change in patient's usual mode of life.—L. i./92,47; B.M.J.E. i./91,173.

Report on its use in pulmonary tuberculosis. It is absolutely useless in producing any obvious beneficial effect; and in doses exceeding $\frac{1}{5}$ milligramme is apt to induce albuminuria, strangury, and hæmaturia.—B.M.J. ii./91,1349; i./92,40.

CAPSICI FRUCTUS.

Capsicum Fruit.

Dose in powder.—$\frac{1}{2}$ to one grain, in a pill.

From this, the well-known fruit of *Capsicum fasti-*

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employed under the names of **Liquor Epispasticus Fortior** and **Collodium Epispasticum Fortius** respectively. Liquor Epispasticus, B.P. 1867, was of this strength, with acetic acid and ether as a menstruum.

giatum, a crystalline principle, **Capsaicin**, possessing great power, has been obtained by Dr. Thresh.—P.J. 1877, 187. It caused in $\frac{1}{25}$ grain doses violent griping pain with purgative effect. It is not in commerce.

Capsicin. Oleo-Resin of Capsicum (U.S.P.).

Prepared by exhausting capsicum fruit by percolation with ether, distilling off the ether, and pouring the liquid portion of the remainder on a strainer, in order to separate and reject the fatty matter.

Dose.—⅛ to ¼ grain in a pill.

Emplastrum Capsici.

Capsicum plasters in rubber combination are made in sheets 7 in. by 5 in., and yard rolls 7 in. wide.

Tinctura Capsici (*Off.*). *Dose.*—3 to 20 minims.

1 in 27 (nearly) of rectified spirit.

Given internally it increases the flow of saliva and gastric juice. It also increases the peristalsis of the intestine, relieves atonic dyspepsia, and is useful in dipsomania—it allays the craving for alcohol. The official tincture is too weak for external use as a rubefacient.

Tinctura Capsici Ætherea.

Prepared as official tincture, with pure ether *vice* spirit. Can be applied more freely on account of rapid evaporation (see p. 43).—L. i./90, 1066.

Tinctura Capsici Fortior, B.P.C.

Dose.—1 to 3 minims. Principally used externally. *Is practically identical with Concentrated Tincture of Capsicum* (Turnbull).

Capsicum in No. 40 powder	10 ounces.
Rectified Spirit	*q.s.*

Macerate 24 hours and percolate to 30 ounces.

This is too irritating generally. The writer has found the following approved of:—

Linimentum Capsici.

Capsicum Fruit in coarse powder 1¼ ounces, Rectified Spirit *q.s.* Percolate to obtain 8¾ ounces. Add Oleic Acid 9½ drachms, Oil of Lavender ½ drachm. Painted on the skin, or applied sprinkled on piline or lint covered with American oiled cloth, in an hour it produces a red glow; its action may be arrested by smearing the part with vaseline. Useful in chest affections, rheumatism, sciatica, &c. Does not blister or redden the skin, hence may be applied to exposed parts. May also be prepared double the above strength.

Unguentum Oleo-Resinæ Capsici, B.P.C.

Oleo-Resin of Capsicum, U.S.P., 1 ounce, Yellow Wax ½ ounce, Benzoated Lard 4 ounces. Melt the wax and lard, add the oleo-resin and stir until cold. For use as the liniment. Is too strong for tender skins—will bear dilution 3 to 6 times.

CARBONIS TETRACHLORIDUM.

Tetrachloride of Carbon.

A heavy, volatile, and mobile chloroform-like liquid, has a pleasant pungent, quince-like odour if pure. Sp. Gr., 1·56. The vapour inhaled relieves hay-fever. Employed locally, sprinkled on piline or lint covered with American oiled cloth, it quickly relieves neuralgic pains. Has been used as, but is not a successful anæsthetic.

Anæsthesia rapidly produced by it, effects soon pass off; relieves pain and causes sleep.—L. i./67,574.

Chemical properties, physiological experiments, and uses for inhalation.—L. i./67,660.

Eighteen cases of its inhalation to relieve pain, and for operations and midwifery.—L. i./67,693,762.

Hay-fever, dysmenorrhœa and tic-douloureux relieved by it.—L. i./67,791.

CARMINUM.

Carmine.

A brilliant red colouring matter prepared from the cochineal insect—*Coccus Cacti.* It is insoluble in water, but entirely soluble in aqueous ammonia. It is not employed medicinally, but is much used for staining histological specimens.—See Appendix.

Glycerinum Carmini, Glycerine of Carmine.

Carmine 60 grains, Distilled Water 1 drachm, Solution of Ammonia, B.P. 80 minims; dissolve and add gradually Glycerine 6 drachms. Heat in a water bath till free from ammoniacal odour. When cold add 20 minims more of Solution of Ammonia to prevent gelatinization and Distilled Water *q.s.* to 1 ounce. Being nearly neutral it dilutes to a pure carmine colour without a purplish tint.

Liquor Carmini, Solution of Carmine.

Carmine 40 grains, distilled water *q.s.* to moisten, Strong Solution of Ammonia 40 minims; dissolve, and add Distilled Water to 1 ounce.

Used to colour various preparations for the toilet, &c.

Liquor Cocci, Liquid Cochineal.

Cochineal (not bruised), Carbonate of Potassium, of each 1 ounce; Distilled Water 8 ounces. Heat in water-bath for half an hour; gradually add Acid Tartrate of Potassium 1 ounce, stir well, continue the heat, and add Potash Alum (in powder) 1 ounce; heat five minutes more, strain through absorbent wool, and pour over contents of strainer sufficient Distilled Water to make strained product measure 8 ounces; when cold add Chloroform 15 minims.

Cascara Sagrada (*Off.*).—See p. 357.

CAULOPHYLLIN.

Dose.—1 to 4 grains in a pill, with glycerine of tragacanth.

A brown resinoid powder obtained from the root of *Caulophyllum thalictroides*—blue cohosh, pappoose, or squaw-root. It possesses diuretic, diaphoretic, and anthelmintic properties, and is used as an emmenagogue, parturient, and antispasmodic. It appears to exert a direct influence on the uterus.

Chinoidin, U.S.—See Quinoidine, p. 354.

CHLORAL HYDRAS.

Hydrate of Chloral (*Off.*).

Dose.—5 to 30 grains, in aqueous solution, or in chloroform water well diluted.

In colourless crystals, soluble 3 in 1 of water—1 grain may be held in solution in one minim of aqueous solution. Freely soluble also in rectified spirit and ether, and in four volumes of chloroform, likewise soluble in oils and fats. The aqueous solution is decomposed by alkalies into chloroform, and formic acid, which combines with the alkali; should thus yield 72·2 per cent. (not less than 70 per cent. B.P.) of chloroform. Hydrate of Chloral heated first liquefies, then boils and becomes volatilized without residue; 5 grains may be made into a pill with ¼ grain Canada balsam, or with a little syrup and tragacanth. As a hypnotic, it is often combined with opiates or morphine, or bromides, but it is incompatible with quinine. Its use is contra-indicated in heart affections, Bright's disease, and when the vital force is very weak. Poisonous doses are best treated after emetics, &c., with hypodermic injection of sulphate of strychnine and inhalations of nitrite of amyl. $\frac{1}{20}$ grain of picrotoxin is said to be enough antidote for 30 grains of chloral.—B.M.J. i./75,506; L. i./91,769.

It is useful as an antidote to poisoning by strychnine, and as a remedy for tetanus. A solution of chloral possesses powerful antiseptic properties.

Tetanus, recovery from, under large doses of chloral; 6 ounces were given.—L. ii./84,272.

Another case, 100 to 160 grains given every 24 hours.—B.M.J. ii./88,994; L. ii./88,1013.

Successful cases of traumatic tetanus.—L. i./89,1152; B.M.J. i./91,1384; Pr. xlvii.132.

As a vesicant, oil the skin, place some crystals on plaster, warm them until they melt, and apply.—Ed.M.J. March, 1887,846.

Severe chorea successfully treated with repeated doses of chloral.—L. ii./89,205.

For false pains preceding labour in neurotic women; 20 grains with 20 grains of antipyrine at bedtime.—B.M.J. ii./88,594.

Only one case of death from chloral during labour; 80 grains taken in 75 minutes.—B.M.J. ii./88,461, *ex* Amer. Jour. Obstet.

Chloral coagulates blood and serous fluids; a 10 per cent. solution used for injection into hydrocele, instead of iodine; also for injection near varicose veins, causing coagulation of blood and contraction of veins.—L. i./91 387.

Chloral combined with digitalis of use in pneumonia; 20 grains at first, then 10 grains every four hours, in ½ ounce infusion of digitalis, until temperature normal, then replaced by suitable tonic.—Ed.M.J. Nov. 1891, 393; Pr. xlviii.63.

Preparations.

Chloral cum Camphora, B.P.C. (Pigmentum Chloral et Camphoræ, T.H.)

Flowers of Camphor,
Hydrate of Chloral, of each 1 ounce.

Rub together in a warm mortar until completely liquid and filter. It remains permanently liquid at ordinary temperatures, and forms a valuable application painted on painful parts in neuralgia and rheumatism. It mixes freely in alcohol, ether, oils, and fats, but not with water or glycerine: the camphor is precipitated on its addition to these. The compound (Chloral and Camphor) dissolves the alkaloids atropine, morphine, and veratrine to the extent of 1 in 30 or more, but their salts are less soluble in it. Liquefactions of a similar kind take place on mixing and gently heating respectively

Menthol 1, Chloral Hydrate 1.
Phenol 3, Chloral Hydrate 1.
Thymol 1, Chloral Hydrate 1.

Quinine salts and chloral hydrate also form liquid combinations. Antipyrine combination, see p. 138.

Suppository of Chloral.

Hydrate of Chloral... ...	5 grains.
Oil of Theobroma	10 grains.

Pound together and press into the mould. Heat must not be applied, else the mixture will not set firm. It is useful in infantile convulsions, where nothing can be administered by the mouth. It should be forcibly retained for a few minutes with the finger, if necessary.

Syrupus Chloral. (*Off.*). *Dose.*—½ to 2 drachms.
Hydrate of Chloral 80 grains, Distilled water 1½ drachms. Dissolve and add Syrup *q.s.* to 1 ounce.

Bromidia. *Dose.*—½ to 1 drachm.
An American nostrum, each drachm of which is said to contain 15 grains respectively of chloral and bromide of potassium, with extract of cannabis indica and alcoholic extract of henbane, ⅛ grain of each.

Chloralamide.—*Syn.* CHLORAL FORMAMIDE. P.G. III.
Dose.—20 to 50 grains, in weak spirituous or acidulated solution. It is incompatible with alkalies.

In colourless inodorous shining crystals with a faintly bitter taste; soluble about 1 in 20 of water, 1 in 2 of spirit. Should not be heated over 120° F., or it is decomposed.

Recommended as a hypnotic, specially suitable in neurasthenia, spinal affections, and heart disease. Has no analgesic action, and has proved unsatisfactory in phthisis. An increase of dose is not required by continued use. Undesirable effects are less frequent and less marked than from chloral.

Haustus Chloralamidi, G.H.

Chloralamide 30 grains, Mucilage Mixture (see p. 63) to 1 ounce.

Trial of 28 cases, 26 successful. Useful in insomnia from nervous affections; satisfactory as an enema.—L. ii./89,397; P.J. 1889,161; Th. Gaz. 1889,611,685.

Useful in 23 cases of mania.—L. i./90,339; M.C. 1890,225.

Fourteen cases of simple insomnia, and that arising from phthisis, heart disease, and enteric fever. Results satisfactory.—L. ii./89,849; P.J. 1889,341.

Twenty successful cases; no bad results.—B.M.J. ii./89,1326. Especially suitable in pure nervous insomnia; requires caution in cardiac affections.—L. ii./89,1192, *ex* Therap. Monat; B.M.J. i./90,626.

Chloralamide renders breathing slower, quickens heart action, and produces nervous excitement, ending in sleep.—B.M.J. ii./90,50.

Chloralamide disorders coördinating apparatus after diminishing reflexes, first slows, then paralyses respiratory movements.—L. ii./90,38; M.C. Mar.1891,462.

Successful in each case, no disagreeable effects. Tolerated for weeks in one case, once 30 grains failed on 9th night.—Report of Therapeutic Committee, B.M.A. —B.M.J. ii./90,237; Pr. xlv.216; P.J. 1890,104; Th. Gaz. 1890,627.

Results in insomnia without pain reliable, but not reliable with acute pain. No after depression, no interference with temperature or digestion, no craving induced; tolerance not readily reached. Giddiness and headache sometimes followed.—B.M.J. i./91,1060; Th. Gaz. 1891,418; M.C. Jan. 1892,251; Pr. xlvii.274.

Chlorobrom.—Under this name a specialty containing 30 grains each of chloralamide and bromide of potassium in an ounce, flavoured with liquorice, has been recommended for insomnia and sea sickness. *Dose.*—½ to 1 ounce.—L. i./92,517; B.M.J.i./92,1329.

Chloralimide.—*Syn.* TRICHLORETHYLIDENIMIDE. *Dose.*—5 to 30 grains, in cachets.

In crystalline colourless needles, odourless and tasteless, obtained by the action of acetate of ammonium on chloral hydrate; insoluble in water, soluble in alcohol, ether, and chloroform. Is not decomposed by water like chloralamide, from which it must be distinguished. Is a hypnotic, and may be given in the same doses as chloral hydrate, or in smaller doses as an antipyretic and analgesic.—P.J. 1890,789; B.M.J. i./90,1151; Th. Gaz. 1890,337.

Hypnal.—See p. 138.

Uralium and **Somnal.**—See p. 403.

CHLOROFORMUM.

Chloroform (*Off.*).

Syn. TERCHLORIDE OF FORMYL.

Dose.—1 to 10 minims, suspended in equal parts of mucilage and water, or in a perle. Small doses may be given as chloroform water or spirit of chloroform.

This well-known anæsthetic is soluble in all proportions in absolute alcohol, pure ether, fixed and volatile oils, and 1 in less than 200 of water (this should not give a greasy stain to the bottle). It does not mix with glycerine. It is a solvent for mastic and most resins, many alkaloids, iodine, bromine, and of phosphorus and sulphur sparingly. It also dissolves gutta-percha and india-rubber. It acts on india-rubber even when vulcanized. Chloroform, according to the Pharmacopœia, has Sp. Gr. 1·497, and contains 1 per cent. by weight of absolute alcohol, which prevents its decomposition (only one-quarter per cent. is required to produce above specific gravity). Absolute Chloroform has Sp. Gr. about 1·5002 at 15°C.; it decomposes on exposure to sunlight and air, with formation of free chlorine and the chlorinous compound phosgene; the addition of alcohol is sufficient to check this change if kept from the light in full bottles well stoppered. Preserved by adding one quarter per cent. of alcohol, if shaken with one-tenth its volume of sulphuric acid for 20 minutes, the acid should not be more than faintly tinged, nor should it, if separated and diluted with half its volume of water, develop a disagreeable odour. It leaves no residue or unpleasant odour after spontaneous evaporation. Permanganate of potassium solution, rendered alkaline with caustic potash, has been suggested, both as a test and as a purifier of Chloroform. Commercial Chloroform, when shaken with a little of this solution, quickly turns green; but this has been shown to be due principally to the alcohol added as a preservative. Absolute Chloroform does not change the violet colour of the test.—P.J. 1882,711,740,760,769,784; L. i./82,355; B.M.J. i./82, 62,331. Chloroform is now largely prepared by the action of chlorinated lime on acetone, as well as from both methylated and duty-paid alcohol.—P.J. 1889,84.

M. Raoul Pictet has patented a process for purifying Chloroform by fractional crystallization between −80° and −82°C., and subsequent fractional distillation under reduced pressure at a low temperature. It can thus be obtained having Sp. Gr. 1·5002 at 15°C., and boiling at 61°C. It is, of course, more costly, but commercially it is not found purer or more stable than that supplied by British makers when carefully purified. As P.G. III. gives the Sp. Gr. of Chloroform as 1·485 to 1·489, Pictet's Chloroform is commercially supplied containing 1 per cent. by weight of absolute alcohol, which makes its Sp. Gr. 1·488, and lowers its initial boiling point to about 59°C.—L. ii./91,1187,1415; B.M.J. i./91,1396; i./92,22,209,525,664; P.J. 1891, 1069; 1892,548,608,691,754,1041.

Report on the comparative action of different brands of Chloroform.—L. i./92,722; B.M.J. i./92,679.

Leader on Chloroforms in commerce.—B.M.J. ii./91,80.

Although the most generally used of anæsthetics, it has of late fallen into disfavour, ether and dichloride of ethidene having somewhat supplanted it. It is agreeable to the patient, rapid in its action, produces complete insensibility, and there is an absence of excitement and movements during the operation, such as is produced by ether; but Chloroform has a decided effect in reducing the blood pressure, while ether has no appreciable effect of this kind, and Chloroform has sometimes an unexpected and apparently capricious effect on the heart's action, the pressure being reduced with great rapidity almost to *nil*, while the pulsations are greatly retarded or even stopped.—B.M.J. ii./80,970.

Chloroform and Cocaine Anæsthesia (combined).—See p. 152.

Antidotes and References.

In syncope from Chloroform inhalation, 3 drops of nitrite of amyl (a capsule is convenient) restores respiration and circulation, with flushed face and return of sensibility when the pulse or breathing becomes defective, with lips blue, &c.—L. i./75,644; B.M.J. ii./88,179, 322.

Atropine injected hypodermically is suggested as an antidote to the cardio-inhibitory effects of Chloroform.—B.M.J. ii./80,620,715,761; M.C. May 1890,128.

Professor Von Nussbaum and Professor Claude Bernard have shown that mixed narcotism and anæsthesia reduce the quantity of Chloroform necessary to produce anæsthesia; if $\frac{1}{6}$ to $\frac{1}{4}$ grain of morphine be injected hypodermically before the Chloroform is administered, less Chloroform is needed, the insensibility is more profound, and the danger attending its use is lessened. Of importance in hot climates, where the low boiling-point of ether prevents its being used.—Pr. xxv.401; L. ii./82,1031.

Chloroform, used by the tonometer, paralyses the ventricles of the frog's heart, by its action on the muscular substance; solution of ammonia is antagonistic to it. R.; Pr. xxvi.436.

Sudden application of large cloth dipped in boiling water to cardiac region in threatened death through syncope from chloroform anæsthesia, was successful in restoring.—L. i./81,1015.

Vegetable and animal infusions and decoctions can be preserved indefinitely by the addition of 1 minim of Chloroform to the ounce of liquid, if vessels containing it be well closed. Better to mix the Chloroform with double its volume of rectified spirit before adding it to the fluid to be preserved.—L. ii./81,694; Pharm. Jour. 1874,441.

Resuscitation from Chloroform syncope by inversion of the body, certainly saved patient.—B.M.J. i./81,559.

In 1882 statistics with particulars of 23 deaths from Chloroform, 4 from ether and 1 from Chloroform and ether.—B.M.J. i./83,353; statistics of 1883, B.M.J. i./84,351; of 1884, B.M.J. i./85,887.

Death of an habitual inhaler and drinker of chloroform.—B.M.J. i./88,1021.

Recent deaths under.—B.M.J. i./90,817,1089,1425; ii./90,789,830,1066; i./91,30,354,461,800,1017,1174, 1191,1333; ii./91,496,613,657,758,894,916,1061,1164, 1277,1363; i./92,134,240,502,984; L. ii./90,682,776, 834,1267; i./91, 339, 679,790,798, 1178,1289,1311, 1325; ii./91,69,432,880,1117,1132,1178,1400; i./92, 101,192,223,709,815,1094,1159,1272,1387,1445.

A short leader on deaths from Chloroform.—B.M.J. i./91,714.

Unpleasant effects from decomposition of vapour by flame of artificial light in confined space.—Pr. xlii.418; B.M.J.E. ii./90,6; Ed. M.J. 1890,392.

Internal use of chloroform successful in gastric ulcer, pneumonia, and typhoid; also of gargles in pharyngitis and diphtheria.—L. i./89,497; i./91,622.

Report of the Hyderabad Commission shows that deaths from Chloroform are more often due to its checking the power of respiration than to arrest of heart's action; in threatened collapse, artificial respiration recommended. Chloroform in no way endangers a fatty heart, but on contrary, by lowering blood-pressure, lessens its work. Does not increase tendency to shock or syncope, but such, if they occur, lessen danger of Chloroform inhalation. Subcutaneous small dose of morphine useful for prolonged operations; use of atropine condemned. If it does not cause excitement, alcohol may be given preceding administration to give patient confidence and steady circulation. With precautions mentioned, Chloroform may be given for operations with ease, and without risk.—L. i./90,149,421,486,1140,1369; ii./90,356; B.M.J. ii./91,1080,1121.

Letters and discussion on.—L. i./90,213,349,372,515, 568,774,823,1389; ii./90, 148, 587, 659,1143,1260; i./91,591; ii./91,513,737; B.M.J. i./90,347,359,1345, 1380; ii./91,1088,1089; M.C. 1890, April, 1; 1891, Jan. 276; May, 95; June, 176.

The conclusions of Dr. Lauder Brunton on the Commission.—B.M.J. ii./91,1088.

Heart failure is the greatest risk.—B.M.J. i./90,1425.

Report on action of Chloroform.—It lowers blood pressure and weakens heart's action. Causes dilatation of heart, but causes no change in rate of action. Cardiac failure occurs from sudden enfeeblement and dilatation, not from complete cessation of rhythm, sometimes before respiration stops, but generally after. Artificial respiration unsuccessful because heart too weak to take advantage of the fresh air. Ether does not cause cardiac dilatation before abolishing conjunctivál reflex. Slowing influence of Chloroform on heart is indirect, through vagus nerves. Lowering of blood pressure, when not excessive, is protective. Changes in respiration are most dangerous, especially from easy breathing to deep and rapid respiration. Free dilution with air gives no security against an overdose, on account of change in breathing. This is often induced by sensory stimulation, such as operative interference, too strong vapour, etc.—(MacWilliam).—B.M.J. ii./90,831,890,948.

Suggested to give a dose of strychnine by mouth or hypodermically previous to Chloroform inhalation to lessen risk of cardiac or respiratory paralysis.—B.M.J. ii./91,1044,1147; P.J. 1891,454.

With due care the use of Chloroform is certainly quite as safe as ether, while its effects are infinitely less disagreeable to the patient both during and subsequent to inhalation (Lombe Atthill).—B.M.J. i/92,110; Reply by Lawrie, 651.

Anæsthetic Preparations of Chloroform.

Capsules of Chloroform.

Encased in cotton wool and silk; contain 10 minims in each. Are convenient for use in asthma, &c.; may be fractured and used by the patient while in bed.

Chloroform combined with alcohol or Eau-de-Cologne, as well as Chloroform and ether mixed in various proportions, have been used as anæsthetics. Generally one volume of Chloroform is added to two volumes of ether for this purpose. A mixture also which received the approval of the committee of the Medico-Chirurgical Society is known and prepared as follows:—

A.C.E.

Alcohol, Sp. Gr. 0·838 ...	1 volume.
Chloroform, Sp. Gr. 1·497...	2 ,,
Ether, Sp. Gr. 0·735 ...	3 ,,

The writer has been in the habit of preparing it from the more definite ingredients—viz.:—

Absolute Alcohol, Sp. Gr. 0·795	1 volume.
Chloroform, Sp. Gr. 1·497...	2 ,,
Pure Ether, Sp. Gr. 0·720...	3 ,,

The mixture has Sp. Gr. 1·01.

The three ingredients are intended to be mixed in such proportions that, when the quantities of each taken separately are exposed to the air in watch glasses, they shall completely evaporate in the same time. It is held they will, from this mixture, evaporate uniformly.

A.C.E. is as effective as pure Chloroform, and a safer agent when deep and prolonged anæsthesia is to be produced, while at the same time it is sufficiently rapid in its operation to be convenient for general use, although it takes a longer time than Chloroform (10 to 15 minutes) to procure anæsthesia.—Medico-Chirurgical Transactions, xlvii.341,343.

Gave typical Chloroform tracings. Report of Hyderabad Commission.—L. i./90,158.

This mixture is of great service in midwifery, where complete anæsthesia is not required.

Safer than Chloroform and quicker than ether.—L. i./79,788.

Recommended for use as safe.—L. i./82,328.

In Vienna, the writer was informed, a modification of this consisting of Alcohol 3, Ether 3, and Chloroform 10, all by weight, is always used at the General Hospital.

Is the best anæsthetic for general use.—B.M.J. ii./87, 1078,1859.

Certainly a safer anæsthetic that chloroform.—L. i./92,709.

A. C. E. recommended, preceded by a hypodermic dose of morphine and atropine.—B.M.J. i./92,86 (*ex* Trans. Amer. Gynæcolog. Soc.).

Deaths under administration.—B.M.J. ii./88,1028; ii./90,185; ii./91,906; L. i./92,1323.

General Preparations of Chloroform.

Internally Chloroform is an antispasmodic and sedative. On account of its agreeable taste it is often added to nauseous medicines, in the form of Spirit of Chloroform, to disguise their taste, and to prevent decomposition.—P.J. 1887,315. Externally it produces a local anæsthesia, and is added to liniments to aid their absorption and to allay pain in neuralgia. Large doses of chloroform may be taken into the stomach, without causing death. For recovery after drinking an ounce, see Ed. M.J. Dec. 1887, 523; a tablespoonful not dangerous. —B.M.J. i./86,786; Th. Gaz. 1886,20.

Aqua Chloroformi (*Off.*).—1 in 200 of water.
Dose.—½ to 2 ounces.

Chloroformum Aconiti.—See p. 39.

Chloroformum Belladonnæ.—See p. 78.

Chloroformum Camphoratum, B.P.C.
Camphor 2 ounces, Chloroform 1 ounce.
Useful for toothache, applied on cotton wool.

Linimentum Chloroformi (*Off.*).
Chloroform 2 ounces, Liniment of Camphor 2 ounces.

Vaseline might with advantage replace the oil of the camphor liniment for this preparation.

Liquor Chloromorphiæ, Chloromorphia Solution.

		Contains in a 10 minim dose :—
Chloroform	2 ounces.	2 minims.
Rectified Spirit	2 ounces.	2 minims.
Treacle	4 ounces.	4 grains.
Liquid Extract of Liquorice	1½ ounces.	1½ minims.
Hydrochlorate of Morphine	40 grains.	$\frac{1}{12}$ grain.
Sulphate of Atropine ...	1 grain.	$\frac{1}{480}$ grain.
Oil of Peppermint ...	8 minims.	$\frac{1}{60}$ minim.
Diluted Hydrocyanic Acid...	160 minims.	$\frac{1}{8}$ minim.
Tragacanth in powder ...	20 grains.	$\frac{1}{24}$ grain.
Distilled Water *q.s.* to ...	10 ounces.	

Rub the morphine, atropine, and tragacanth with the liquid extract of liquorice and transfer to a bottle. To the spirit add the Chloroform and oil of peppermint. Mix this gradually with the morphine solution, then add the remaining ingredients and shake well.

Dose.—5 to 20 minims. Is a useful sedative, more nearly resembling the secret remedy, Chlorodyne, than the official Tinctura Chloroformi et Morphinæ.—**Caution.** —It contains four times as much Morphine as the latter.

Poisoning by 4 ounces of Chlorodyne (= 16 grs. morphine), with recovery by use of atropine, strychnine, and stimulants.—L. ii./90,670.

Perles of Chloroform contain about 3 minims in each. *Dose.*—1 or 2.

Spiritus Chloroformi (*Off.*).—1 in 20 S.V.R. *Syn.* Chloric Ether. *Dose.*—5 to 60 minims.

Tinctura Chloroformi Composita (*Off.*).

Chloroform 2 ounces, Rectified Spirit 8 ounces, Compound Tincture of Cardamoms 10 ounces. *Dose.* —5 to 60 minims.

Tinctura Chloroformi et Morphinæ (*Off.*).

		Contains in a 10 minim dose:—
Chloroform	1 ounce ...	1¼ minims.
Ether	2 drachms.	⅛ minim.
Rectified Spirit ...	1 ounce.	1¼ minims.
Hydrochlorate of Morphine	8 grains.	1/48 grain.
Diluted Hydrocyanic Acid	½ ounce.	⅝ minim.
Oil of Peppermint	4 minims.	1/96 minim.
Liquid Extract of Liquorice	1 ounce.	1¼ minims.
Treacle	1 ounce.	1¼ minims.
Syrup *q.s.* to	8 ounces.	

Diffuse the morphine and oil of peppermint in the spirit, and add the chloroform and ether. Mix the extract and treacle with three ounces of syrup, add this to the above, mix, and further add the hydrocyanic acid and syrup *q.s.* to eight ounces. The use of a stronger syrup (Sugar 12, Water 5) makes a more homogeneous preparation. The writer has been unable to detect ether in chlorodyne.

CHRYSAROBINUM.

Chrysarobin (*Off.*).

Syn. Araroba or Goa Powder; Po' de Bahia. *Dose.*—⅛ to ¼ grain.

A concretion (erroneously stated in the B.P. to be the medullary matter) obtained from the stem and branches of a leguminous tree, *Andira Araroba*, dried, powdered, and purified.

The crude substance is imported from Brazil, mixed with chips of wood, as a rough powder or in small pieces. About 80 per cent. of its weight consists of chrysarobin, or chrysophanic acid so-called. It is at first light yellow, but turns brown and purplish by exposure, and oxidises into *true* chrysophanic acid. Being known and used in India under the name of Goa powder as a remedy for Indian ringworm and other skin diseases, it was described by Kemp, and named by him *Chrysarobine.*—P.J. 1864,345. The Portuguese settlers at Goa imported it from Brazil. In 1874 some Araroba was offered in the London drug market from Brazil, of which the writer got a sample; nothing was known of it except that it was a remedy for skin diseases. A specimen was afterwards exhibited at the Pharmaceutical Meeting in March, 1875. The writer having previously supposed the Indian drug (from information given to him by Dr. Giraud, late of Bombay) was the same as Araroba, asked about their identity.—P.J. 1875,716. This Dr. Attfield ultimately established, and also that they consisted principally of chrysophanic acid, or rather chrysarobin.—P.J. 1875,721. Papers on its history and uses appeared almost simultaneously by Sir Jos. Fayrer and Dr. Da Silva Lima.—M.T.G. ii./74,470; M.T.G.i./75,249. The Indian mode of using the drug was to cut a lime fruit, dip it in the powder and dab it on the affected skin. The Brazilians mix it with vinegar, and apply it, or use

Unguentum Araroba.

Goa Powder 1, Glacial Acetic Acid 1; rub together and add Lard 14. This is an effective application.—M.T.G. i./75,249; P.J. 1875,723.

For the further chemical history and botanical source, *vide* P.J. 1864,345; 1875,721,801; 1877,709; 1879,775, 986; 1880,42,814.

Chrysarobinum Purum, Pure Chrysarobin.

Syn. RHEIN, CHRYSOPHANIC ACID (in error so called). "Commercial Chrysarobin, as purified by solvents."—B.P. *reprint*, 1887.

Dose.—⅙ to ½ grain or more in skin diseases; 8 to 20 grains is an emetic purge.—B.M.J. i./77,608.

Pure chrysarobin is a tasteless and odourless dull orange yellow powder, but can be obtained by sublimation in bright shining yellow needles. It is contained in Rhubarb root, Dock root, and the Yellow Wall Lichen, &c., but commercially it is prepared from Araroba or Goa powder by exhausting this with hot benzene or petroleum spirit, filtering and allowing the Chrysarobin to crystallize out. It is not soluble in weak solution of potash, but by the action of a stronger solution of this alkali in contact with the air it dissolves and becomes converted into chrysophanic acid in combination with potassium, from which true chrysophanic acid may be separated by the action of a mineral acid.—P.J. 1879,896. Clinical experiments have shown that the mother-liquor from which Chrysarobin has crystallized still contains a principle more active than pure Chrysarobin.

Chrysarobin is freely soluble in hot benzene, hot chloroform, hot oil of turpentine and several volatile oils; in hot glacial acetic acid and hot glycerine about 1 in 60; olive oil, melted lard and vaseline dissolve it largely if heated, but on cooling any of these solutions much of it crystallizes out. It is insoluble in water and rectified spirit; slightly soluble in ether. It may be made into pills with glycerine of tragacanth.

Used externally, chrysarobin is a powerful stimulant and parasiticide in many skin affections. It has also been administered internally for psoriasis, but even in half-grain doses it purges the patients so much, that as a rule its use cannot be persevered in to produce a cure.

Unguentum Chrysarobini (*Off.*).

Chrysarobin (pure) 1, Benzoated Lard 24. Mix, heat to dissolve as much as possible, and stir till cold. Unguentum Chrysarobini, U.S., is 1 in 10 of benzoated lard.

Chrysarobin ointment has been used as a successful remedy in psoriasis, lupus, ringworm of the scalp, pityriasis, tinea circinata, &c. For some forms of eczema and other skin affections a milder ointment should be used—5 to 10 grains to an ounce. It is important that the drug should be dissolved in the fat. It stains the skin and hair, and a strong ointment after three days' continued use sometimes produces feverishness and irritation, accompanied by discoloration of the skin beyond the parts to which it has been applied. The stains can be removed from the skin, linen, &c., with benzene, or a weak solution of potash or chlorinated lime.

Unguentum Chrysarobini Compositum (Unna).

Chrysarobin 5, Salicylic Acid 2, Ichthyol 5, Vaseline 88.—M.C. Sept. 1890,522; B.M.J.i./90, 1090.

In Vienna, for psoriasis, M. Auspitz uses each day, or every two or three days, according to extent of surface affected, with soap baths intervening, a pigment composed of chloroform (by weight) 8, chrysarobin (pure) 1, dissolve and add gutta percha 1; dissolve again.—Pr. xxxiii.52; Pr. xxxiv.135; B.M.J. i./84,1006.—M. Besnier first paints on the part a 10 to 15 per cent. solution of chrysarobin (pure) in chloroform, and covers it with the gutta percha varnish known as

Traumaticin, composed of

Gutta Percha (purified) 1, Chloroform (by weight) 9.

As this is about the same strength as LIQUOR GUTTA PERCHA, B.P., 1 to 8 (fluid), the writer prepares M. Auspitz's application thus:—

Pigmentum Chrysarobini.—*Adopted by G. H.*

Chrysarobin (pure)	1 ounce.
Solution of Gutta Percha ...	9 fluid ounces.

A cleanly application,—prevents soiling of bedlinen and underclothing. The following **Paint** is recommended for psoriasis: Chrysarobin 1, Pyrogallol 1, Ether and Alcohol, of each 10; Collodion 120. Apply after bathing every third day.

Chrysarobin may also be applied by means of Camphoid.—See p. 96.

Plaster Mulls are spread containing 2 and 10 grammes of Chrysarobin respectively, in ⅕ square metre.—See p. 421.

Treatment of psoriasis by Chrysarobin and its preparations.—B.M.J. ii./76,819; i./77,510, 546; i./78,663, 866; L. ii./81,74; i./82,817; ii./82,702, 792, 935; ii./85,577; Pr. xx. 415; xxi. 444.

Occasions sometimes erythematous irritation of the skin with violet or purplish discolorations, and at times minute papules.—B.M.J. i./79,223.

Ointment useful in acne rosacea.—M.T.G. i./77,665.

Chrysarobin is a powerful local stimulant; not, however, tending towards vesication or ulceration; curative properties best shown in psoriasis; is an undoubted parasiticide, especially in ringworm of the body and tinea versicolor.—Pr. xxii.376; M.C. Mar. 1892,427.

Nine cases of tinea circinata cured in a week by Goa powder ointment, not so successful in tinea tonsurans.—L. i./77,124; B.M.J. i./77,199.

In ringworm, 7 grains to 1 ounce of chloroform applied thrice daily sinks in deeply.—B.M.J. ii./84, 858.

Chrysarobin successful as a local application for hæmorrhoids.—L. ii./89,811.

CIMICIFUGÆ RHIZOMA.

Cimicifuga (*Off.*).—*Syn.* ACTÆA.

The rhizome and rootlets of *Cimicifuga racemosa* (*Actæa racemosa*, Linn.), black snakeroot or black cohosh. Indigenous to the United States and Canada.

Cimicifugin.

The powdered resinoid substance of a yellowish brown colour obtained from black snakeroot.

Dose.—1 to 6 grains in pill with glycerine of tragacanth, as a nervine tonic and antispasmodic, given for rheumatism, chorea, amenorrhœa, and to excite contraction of the uterus.

Extractum Cimicifugæ Liquidum (*Off.*).

1 = 1 of Cimicifuga exhausted with rectified spirit.

Dose.—3 to 30 minims.

Tinctura Cimicifugæ (*Off.*).

Syn. TINCTURA ACTÆÆ. 1 in 8 of proof spirit.

Dose.—15 to 60 minims, or 5 minims every hour.

Very useful in chronic rheumatism where one part of a tendon, muscle, or articulation is exquisitely painful, or where the disease is traceable to previous uterine affection; also in lumbago, sciatica, pleurodynia, and headache from fatigue.—R.; Th. Gaz. Nov. 1887,732.

In chronic rheumatism and obscure nerve-pains, also in lumbago very valuable in dose of 30 minims twice or three times a day.—L. ii./62,238.

Cimicifuga successful in severe dysmenorrhœa of long standing, dyspepsia with neuralgic pains, and hysterical neuralgia.—L. i./89,477.

A certain anodyne in dysmenorrhœa, and increases the flow in scanty menstruation, also beneficial in menorrhagia and metrorrhagia.—Pr. xlviii. 265.

CINCHONÆ CORTEX.

Cinchona Bark (*Off.*).

The following dried barks are official for the production of the salts of the Cinchona alkaloids:—Yellow

Cinchona bark, obtained from *Cinchona Calisaya;* pale Cinchona bark (crown or Loxa bark), from *Cinchona officinalis;* red Cinchona bark, from *Cinchona succirubra;* the bark of *Cinchona lancifolia*, Mutis, and other species of Cinchona; that of certain species of Remijia may also be used. The only kind official for making galenical preparations is the cultivated Red Cinchona.—See p. 121.

The sources of the principal "barks" of commerce may be tabulated as follows:—

I.	C. officinalis, *var.* α, Condaminea „ „ β, Bonplandiana „ „ γ, crispa	yielding crown bark.
II.	C. succirubra (Pavon),	yielding red bark.
III.	C. nitida C. micrantha C. Peruviana	„ grey bark.
IV.	C. Calisaya	yielding yellow bark.
V.	C. lancifolia C. cordifolia	„ Columbian bark.
VI.	C. Pitayensis	„ Pitayo bark.
VII.	Remijia Purdieana „ pedunculata	„ Cuprea bark.

The Quinine barks, as they are called, now imported from South America, are chiefly the Calisaya in quills, and those known as Cuprea barks, the produce of species of Remijia. But a much larger quantity of cultivated bark arrives, chiefly from Ceylon, the produce of *C. succirubra*, *C. officinalis*, and hybrids; the remainder comes principally from India; some of the rich Java bark, produced by *C. Calisaya, var. Ledgeriana*, comes to London, but most of it goes either to Amsterdam or Hamburg. The old "flat" Calisaya bark is not now met with.

The alkaloid Cinchonidine, although often found associated with quinine in Cinchona, is generally absent from Cuprea barks, and in some the alkaloid Cupreine, nearly allied to quinine, has been found; its salt, **Sulphate of Cupreine,** is sold in light feathery crystals. An alkaloid named **Cinchonamine** is also contained in some samples. **Hydroquinine,** another cinchona alkaloid, discovered by Hesse, is associated with and nearly allied to quinine; it possesses similar chemical properties to the latter, but has two additional atoms of hydrogen in its molecule.

The cultivation of the Cinchona is carried on in India, in the Nilgiri Hills in the south, and near Darjeeling in the north-east, also in Ceylon, Java (whence our largest supplies), and the West Indies.

The species *C. succirubra* has proved to be the hardiest and most easily propagated, and, although on analysis the yield of cinchonidine and quinidine generally preponderates over that of quinine, yet the total yield—often 5 to 10 per cent.—of alkaloids from the bark of this Cinchona is very large; latterly the proportion of quinine in it has increased.

Cinchonæ Rubræ Cortex, Red Cinchona Bark (*Off.*). *Dose.*—5 to 60 grains.

The dried bark of the stem and branches of cultivated plants of *Cinchona succirubra*. Tested by official process, it should yield between five and six per cent. of total alkaloids, of which not less than one-half should consist of quinine and cinchonidine.

Preparations of Red Bark.

Decoctum Cinchonæ (*Off.*).—1 produces 16. *Dose.*—1 to 2 ounces.

Elixir Cinchonæ.—See p. 180.

Extractum Cinchonæ Liquidum (*Off.*). *Dose.*—5 to 10 minims.

Red Cinchona Bark in No. 60 powder, 20 ounces, is percolated with a mixture of distilled water 5 pints, hydrochloric acid 5 drachms, and glycerine 2½ ounces; the percolation is continued with distilled water until the bark is exhausted. The percolate is concentrated by evaporation, and adjusted in strength so that, after the addition of 12·5 per cent. of rectified spirit, it shall contain 5 grains of total alkaloids in 100 fluid grains. It thus makes an acid preparation of bark; 1 ounce equals about 1 ounce of bark. In the 1867 B.P. **Extractum Cinchonæ Flavæ Liquidum**, yellow bark was percolated with cold distilled water *only*, the percolate concentrated to Sp. Gr. 1·2, and one-third its volume of rectified spirit added; it then had Sp. Gr. 1·1; a plain aqueous menstruum being used, it failed to exhaust the bark—even approximately.

Liquid extract of red bark has been much lauded in America for giving drunkards a distaste for alcohol.—B.M.J. i./80, 271, 681.

Infusum Cinchonæ Acidum (*Off.*).

Dose.—1 to 2 ounces.

Red bark ½ ounce in boiling distilled water 10 ounces, with aromatic sulphuric acid 1 drachm; infuse 1 hour and strain.

Mistura Ferri Aromatica (Heberden's Ink) (*Off.*) contains cinchona. *Dose.*—1 to 2 ounces.

Tinctura Cinchonæ (*Off.*).

Red bark 1 in 5 of proof spirit.

Dose.—½ to 2 drachms.

Tinctura Cinchonæ Composita (*Off.*).

Syn. HUXHAM'S TINCTURE OF BARK.

Has now red *vice* pale bark 1 in 10.

Dose.—½ to 2 drachms.

Vin de Quinquina au Malaga (Codex).

May be made with red bark 3 parts in 100 of Malaga wine.

Dose.—1 to 4 drachms, is readily taken by children.

Cinchonina and Sulphate.—See p. 123.

Cinchonidinæ Sulphas.—See below.

Quinetum and Sulphate.—See p. 346.

Quinidinæ Sulphas.—See p. 347.

Quinina and Salts.—See p. 347.

As to the relative value of the Cinchona alkaloids, two Commissions, one in Bombay, the other in Madras, have reported that Quinine keeps its long-maintained and acknowledged supremacy. Next in value is Quinidine; then follow Cinchonidine and Cinchonine; of the last two, the former is preferable, but dearer, the latter being nauseous and liable to cause derangement to the stomach. The proper relative doses are of Quinine 3 grains, Quinidine 5 grains, and Cinchonidine and Cinchonine 7 grains each.—P.J. 1870,325; 1872,725; 1873,396.

CINCHONIDINÆ SULPHAS.

Sulphate of Cinchonidine.

Syn. Formerly termed QUINIDINE SULPHATE, or CHINIDIN SULPHATE, by German chemists.

Dose.—1 to 10 grains.

In silky white needles, generally smaller than sulphate of quinine, obtained from some cinchona barks. Although isomeric with cinchonine, its solution is lævogyrate to polarized light, like that of quinine, but it does not, like the latter and true quinidine, produce the emerald green colour with chlorine water and ammonia. The sulphate is soluble 1 in 50 of alcohol, 1 in 100 of water, rendered more soluble in water by addition of acid—a minim or more of diluted sulphuric acid to a grain—may be dispensed thus, or 5 parts with 1 of glycerine of tragacanth in pills. Taste, bitter.

Much less costly than quinine, and can be used with effect in doses of 1 to 5 grains as an antipyretic.—Pr. xvii.53.

In intermittent fever as much as 62 grains per diem produced marked slowing of the pulse, without any convulsive action or symptom of intoxication, which it has been said to cause.—Pr. xxiv.375.

In intermittent fever 5 or 6 grains 4 or 5 times a day is most effective.—L. ii./81,1065.

In intermittent fevers, malaria, and neuralgia, has a distinct value of its own, acting as rapidly and efficaciously as, though not a substitute for, quinine; patients are more capable of resisting fresh malarial poisoning than after the latter.—B.M.J.E., ii./90,16; Th. Gaz., 1890, 768.

Salicylate of Cinchonidine is useful as a tonic and antiperiodic in neuralgia, rheumatism, sciatica, &c., 5 grains every 2 hours in pills or wafer paper.—B.M.J. i./81,428.

CINCHONINA.

Cinchonine. *Dose.*—1 to 10 grains.

An amorphous white powder, as met with in commerce, obtained from Cinchona barks, isomeric with cinchonidine, but solutions of its salts are dextrogyrate. Being insoluble in cold water, and requiring 2,500 of boiling water to dissolve it, it is almost tasteless, and is recommended in the following form as a tasteless febrifuge for children:—

Pulvis Cinchoninæ Compositus.

Cinchonine 12, Bicarbonate of Sodium 1, Sugar of Milk 60. *Dose.*—3 to 12 grains, according to age.

Cinchoninæ Hydrochloras.

Dose.—1½ to 10 grains, or more.

In white acicular crystals, very like sulphate of quinine, very soluble in water and alcohol.

Cinchoninæ Sulphas (*Off.*).

Dose.—1½ to 10 grains, or more.

In hard, colourless, short rhombic prisms, with a vitreous lustre. Soluble 1 in 54 of cold water, 1 in 12 absolute alcohol. Cinchonine salts are much the cheapest of the alkaloidal salts of Cinchona. Their nauseous, bitter taste is objectionable. They are given in doses one-third larger than quinine and for the same purposes; as prophylactics some have thought them superior to quinine. The hydrochlorate is the salt most convenient for use. May be dispensed in aqueous solution, or in pills, 5 parts with one of glycerine of tragacanth.

Cinchoninæ Iodosulphas. Iodosulphate of Cinchonine.—*Syn.* ANTISEPTOL.

This odourless brown powder has been recommended as a substitute for iodoform. It contains 50 per cent. of iodine, and is soluble in alcohol and chloroform, insoluble in water.—P.J. 1890,161; Th. Gaz. 1890,632.

Iodomercurate of Cinchonine, a yellow amorphous powder produced by the action of Nessler's Reagent (see p. 392) on a solution of a salt of Cinchonine, has also been suggested for external use as an antiseptic.

COAL TAR DERIVATIVES.

Solutions of Coal Tar.

An alcoholic preparation known as *Liquor Carbonis Detergens* owes its properties in part to Carbolic Acid.

As a lotion, from 1 drachm to 1 ounce to a pint of distilled water forms a yellowish milky emulsion; or, as an ointment, 1 part to from 7 to 15 of basis. Useful in prurigo and chronic scaly skin diseases.

Liquor Picis Carbonis, B.P.C.*

Coal Tar prepared by heating in a shallow vessel, at 120° F. for one hour, stirring frequently, 4 oz., Tincture of Quillaia (1 in 10 S.V.R.) 1 pint. Digest at 120° F. for two days, cool, and decant or filter.

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* *Liquor Picis Carbonis, G.H.* Resin Soap (see p.416) 2 ounces, Methylated Spirit 1 pint, Prepared Coal Tar 4 *fluid* ounces. Digest at 125° F. for two days, cool and filter; resembles Creolin.—P.J. 1890,751. *Unguentum Picis Carbonis, G.H.* Solution of Coal Tar 1, Prepared Lard 3.

Liquor Picis Carbonis et Ligni.
- Dissolve Wood Tar 1 in 20 of above liquor.

Liquor Picis Ligni may be prepared by dissolving Wood Tar 1 in 20 of above Tincture of Quillaia.

The tincture of quillaia enables these solutions to form emulsions with water. One part to 7—20 is useful for various skin affections as a lotion.

Creolin, a nostrum sold as *Liquor Antisepticus,* is a dark alkaline liquid prepared from coal tar, forming a white emulsion with water, and is recommended as a deodorising antiseptic. For lotions, 1 to 100 to 500 of water.—L. i./88,540; B.M.J. ii./88,1061. *Dose.*—1 to 5 grains.

Injections successful in dysentery and gonorrhœa.—L. ii./88,341; ii./89,232; Th. Gaz. 1889,495,647; 1891,533.

Use in ophthalmia and inflammation of the middle ear.—L. ii./88,341; i./89,702; Th. Gaz. Dec. 1888, 844.

As ointment for erysipelas, eczema, and scabies.—Pr. xlvi.44; B.M.J.E. ii./90,84; Ed. M.J. 1891,962.

An unreliable disinfectant, weak antiseptic, and more poisonous than supposed.—B.M.J. i./89,260; Th. Gaz. Nov. 1888,768. Toxic effects.—L. ii./89,811; Th. Gaz. 1889,550; 1890.631; Y.B. 1890,302.

Poisoning by 9 ounces swallowed; recovery.—B.M.J. i./90,92.

Lysol. A German specialty.

A dark-coloured alkaline liquid, obtained by the saponification of cresols, and containing the higher homologues of carbolic acid. It is soluble in all proportions of water, forming a gelatinous mixture with small quantities, and is said to be a stronger antimycotic and less poisonous than carbolic acid. Incompatible with acids. A useful disinfectant.—B.M.J.E. i./92,99.

In lupus, applied daily or every other day, useful, but painful.—B.M.J. ii./91,598. One per cent. solution recommended in aural practice and midwifery.—B.M.J.E. ii./91,173; Th. Gaz. 1892,64.

Solveol. Another German preparation.

A neutral dark-coloured liquid, soluble in all proportions of water; analogous to, but more limpid than, lysol, and non-saponaceous. Is a solution of cresotate of sodium with cresols. Recommended in ½ per cent. solution as a surgical antiseptic, and 1 to 12 for spray disinfection of rooms.—L. i./92,657.

Acetanilidum, Acetanilide. *(Off.)*.—*Syn.* PHENYLACETAMIDE. *Commonly known as* ANTIFEBRIN. *Dose.*—3 to 10 grains, in cachets or suspended in water by compound tragacanth powder.

Prepared by the action of glacial acetic acid on aniline. In small white odourless glittering crystals, which produce a burning sensation on the tongue, and melt at 235° F. It is almost insoluble in cold water, but freely soluble in spirit, and is neutral in its reaction. Is soluble 1 in 20 of brandy with difficulty. It is used as a febrifuge and antipyretic, hypnotic sedative, anti-epileptic, anti-arthritic, and nervine tonic, and given with good results in malignant small-pox.—Y.B. 1888, 102, 111, 287; L. ii./86,462,645; L. i./87,41; L. ii./87, 85,776. Therapeutic study.—B.M.J. i./87,339.

Checks the chills and fever of phthisis, quiets the nervous system, and improves the well-being. —Pr. xxxviii.447.

Does not destroy microbes in solutions.—L. ii./87,1132.

Relieves the darting pains of locomotor ataxy.—L. i./87,41. Successful in sciatica.—Pr. xlii.131; B.M.J. i./89,374. Useful in enteric fever.—Pr. xliv.14.

For rheumatism acts as the salicylates do, is four times as strong as antipyrine.—Ed.M.J. 1887,850.

Advantages over antipyrine; smaller dose, steadier action, and less danger from collapse.—B.M.J. ii./88,979.

Recommended for diphtheria, and scarlatinal and other forms of sore throat.—B.M.J. ii./89,895; L. ii./89,660.

Toxic effects of two 4-grain doses quickly repeated in a girl of 13; faintness, palpitation, and cyanosis.—L. i./89,1157. Other cases.—B.M.J. ii./89,601; i./90, 288; Y.B. 1890,300; L. i./90,575,816,1135.

A useful hypnotic for children.—B.M.J. i./93,43.

In small repeated doses regulated temperature in typhoid and phthisis. Caution against large doses.—B.M.J.E. ii./90,59; B.M.J. i./91,172.

A good and safe antipyretic, best given with brandy, in enteric fever, pneumonia, and tuberculosis.—B.M.J. i./91, 284.

One of the best antipyretics for pyrexia of phthisis; small dose required, and generally only two daily.—B.M.J. i./91,684.

May be used with good result in children when a remedy of this class admissible, but with proper regard to dose.—B.M.J. i./91,1064.

Comparative experiments with acetanilide and other antiseptics, showing its powerful inhibitory action on bacilli of bronchitis; and successful use in acute catarrhal bronchitis.—L. i./91,1425.

Antikamnia. An American nostrum, contains about 70 per cent. of acetanilide, with about 10 per cent. of caffeine, and the remainder bicarbonate of sodium.

Antinervin, which was introduced as having the composition of salicyl bromanilide, has been found to be a mixture of salicylic acid, bromide of potassium, and acetanilide.—P.J. 1891,1169.

Monobromacetanilide.—*Syn.* MONOBROMPHENYL-ACETAMIDE; ANTISEPSIN. A bromine substitution compound of acetanilide, in white acicular tasteless crystals. Suggested for facial neuralgia, neuritis, and rheumatism, in dose of 3 to 15 grains.—B.M.J.ii./88,183.

Two cases of cyanosis from its use.—B.M.J. i./90,357.

In doses of $\frac{5}{8}$ grain reduced temperature of phthisis, slowing pulse, but not respiration. Used also as an antiseptic, and in suppositories ($\frac{1}{2}$ grain), for hæmorrhoids.—L. i./90,1266; M.P.C. i./90, 330; Th. Gaz. 1890,416.

Acetophenone.—*Syn.* HYPNONE; PHENYL-METHYL ACETONE.

Dose.—$1\frac{1}{2}$ to 5 minims, suspended in almond emulsion, or with mucilage or syrup and peppermint water, or in **Capsules of Hypnone** with oil, which contain $\frac{3}{4}$ minim of Hypnone in each. Hypnone is a colourless liquid at ordinary temperatures, but crystallises below 50° F. in white needles. Has a strong odour of almond and orange blended. Is insoluble in water, but soluble in alcohol, ether, and oils. As a hypnotic, is said to be useful in nervous affections, and simple insomnia without pain; its administration requires care, as its action is somewhat uncertain.—L. i./86,466; B.M.J. i./86,84,131,947; ii./86,19; P.J. 1885,445,582; 1886,641; L. ii./89,398.

Has been used with some success internally to promote chloroform anæsthesia.—B.

Is of no value in insomnia.—L. i./86,369; L. i./87,391.

Acidum Carbolicum.—See p. 7.

Acidum Phenylaceticum, Phenylacetic Acid.

Syn.—ALPHATOLUIC ACID.

Dose.—1 to 3 grains, in alcoholic or oily solution.

Is in white micaceous crystalline scales, with a pungent aromatic taste and a persistent diffusible odour, resembling that of the perspiration of horses.

Soluble 1 in 1 of spirit, 1 in 20 of oils.

In phthisis, in doses of 10 to 20 minims of a 1 in 6 alcoholic solution, freely diluted, three times a day, produced gain in weight, strength, and colour, partly due to diminution of cough and expectoration.

This acid and phenylpropionic acid, mentioned below, from their disinfecting action on the virus of tubercle, have been given internally at Brompton Hospital in a number of cases of phthisis. Their pungency might be decreased by being administered in cod liver oil.—Pr. xlii.100; P.J.1885,429; 1889,701.

Acidum Phenylpropionicum, Phenylpropionic Acid. — *Syn.* HYDROCINNAMIC ACID, HOMOTOLUIC ACID.

Dose.—1 to 3 grains, in alcoholicor oily solution.

In white acicular crystals, with a strong diffusible balsamic odour and aromatic taste.

Soluble 1 in 1 of spirit, 1 in 6 of oils.

In phthisis, given in doses of 10 to 20 minims of alcoholic solution, 1 in 6, freely diluted, three times a day, produced similar results to above, but did not diminish cough or expectoration. Apparently indicated in excavation cases. — Pr. xlii.100; P.J. 1885,429.

Analgene. ORTHO-OXYETHYL-ANA-MONOACETYL-AMIDOQUINOLINE. *Dose.*—15 grains.

A white crystalline powder slightly soluble in water; derived from oxyquinoline; has been used with success in acute rheumatism.—C. & D. i./92,773.

Aniline.—*Syn.* PHENYLAMINE, MONO-PHENYLAMINE.

A colourless, mobile, oily liquid, with a faint vinous odour and aromatic burning taste, soluble in alcohol, ether, and oils, slightly so in water. It darkens in colour by keeping. **Aniline colours,** see p. 424.

It is used in the so-called **Aniline Treatment of Phthisis**, which consists of inhalation of 1 part aniline to 7 of eucalyptus oil (oil of anise, peppermint, or gaultheria may be used as the diluent) from a specially-designed inhaler. 10-grain doses of acetanilide are given 4 or 5 times a day; this breaks up in the system, aniline being one of the products. At the same time an ointment of iodine or iodoform with eucalyptus oil is rubbed into the chest, and counter-irritants applied. Aniline is supposed to destroy the tubercle bacilli in the blood.—B.M.J. i./87,579,789,842; L. i./88,569. No good results in any case, but disease became worse, besides showing toxic action of aniline on the heart.—L. ii./88,388.

Anthrarobin. A light brownish yellow powder, darkening with age, obtained by reduction from alizarin. It is a powerful deoxidising agent, sparingly soluble in chloroform and ether, but readily so in alcohol or weak alkaline solutions.

It has been used with success in psoriasis, in the form of an ointment, containing from 5 to 10 per cent.—Pr. xlii.56; P.J. 1888,346. Caused smarting, and slow in action.—Y.B. 1890,300.

Is best applied as a tincture, after rubbing the parts with soft soap or soap liniment.—Th.Gaz. Jan. 1889,30.

Antithermin.—*Syn.* **Phenyl-hydrazin-levulinic Acid.** *Dose.*—8 grains.

It is allied to antipyrine, phenyl-hydrazin being an intermediate product in the formation of that body, as well as of this. Is obtained by dissolving phenyl-hydrazin in dilute acetic acid, and adding to it a solution of levulinic acid, which forms a yellow precipitate which is recrystallized from alcohol.—P.J. 1887,801. Not used in England. Is apt to cause stomach pains.

Benzanilide.—*Syn.* **Phenyl-benzamide.**

Dose.—3 to 12 grains.

In small white shining scales, odourless and tasteless; insoluble in water, soluble 1 in 60 of spirit. It is obtained by the action of benzoyl chloride on aniline, being chemically and therapeutically similar to acetanilide. Has been found specially useful for children.—P.J. 1888,425 (ex Apot. Zeit.); Y.B. 1890,301.

Benzol. (*Off.*).—*Syn.* **Benzene.**

Dose.—5 to 10minims, as on p. 130.

For internal use Benzol should be purified by treatment with sulphuric acid and redistillation.

Useful for winter cough; also for whooping cough, and in influenza; a reliable pulmonary antiseptic. May be given as

Guttæ Benzol. *Dose.*—30 drops on sugar.

Benzol 4, Oil of Peppermint 1, Olive Oil 20. Or emulsified, as Benzol 80 minims, Rectified Spirit 2 drachms, Spirit of Chloroform 2½ drachms, Mucilage of Tragacanth 1 ounce, Water to 8 ounces.—L. i./92,234; B.M.J. i./92,171; Pr. xlviii.215; P.J. 1892,611.

Benzol quickly destroys pediculi capitis or pubis, applied freely; one application generally sufficient.—B.M.J.E.i./92,3.

Betol.—See p. 285.

Chinolinum.—Chinoline. *Dose.*—3 to 10 minims.

A transparent, colourless, strongly-refracting, mobile, oily liquid, with a peculiar odour, soluble in alcohol, but insoluble in water. May be obtained as a derivative of cinchonine and quinine, but is now prepared by oxidation of nitro-benzene and aniline.—P.J. 1882,245.

Chinolini Tartras.

Dose.—5 to 15 grains in chloroform water, with syrup of orange, or in wafer paper.

This salt is most recommended for use. It is, when pure, in odourless, glistening, white acicular crystals, nauseous in taste, and soluble about 1 in 40 of water.

Salicylate of Chinoline is less soluble than the above.

Tartrate of chinoline is a powerful germicide and antiseptic. A one per cent. solution completely destroys the coagulability of blood, and weaker solutions render sterile, propagating fluids. Therapeutically, it is a powerful antipyretic in enteric and intermittent fevers, useful in periodic neuralgia, and as a local antiseptic.—B.M.J. ii./81,408; P.J. 1881,279,317,532; P.J. 1882, 624,661; L. i./82,324; L. i./85,862.

Used in diphtheria, as a pigment.—Pr. xxix.447.

Exalgin.—*Syn.* METHYLACETANILIDE.

Dose.—2 to 6 grains in cachets or aqueous or weak alcoholic solution. In colourless acicular or tabular crystals, with a slight saline taste. Soluble 1 in 60 of water, freely so in spirit. (Name Exalgin is registered).

Mistura Exalgin.—*Dose* ½ to 1 ounce.

Exalgin 30 grains, Tincture of Orange 2 drachms, Syrup of Orange Flowers 6 drachms, Water to 6 ounces.

Pilula Exalgin.—3 grains (with syrup and acacia).

Tabellæ Exalgin.—½ grain each, with chocolate.

It possesses chiefly analgesic properties, is useful in neuralgia of all forms, causing no irritation or rash. Also possesses antipyretic and antiseptic properties. In toxic doses causes impulsion, trembling, and paralysis of respiratory organs. Is eliminated by the urine, the quantity of which, and of sugar when present, is reduced.—P.J. 1889,781,861; Y.B. 1890,303. 88 cases as an analgesic, 67 successful.—B.M.J. i./90, 344; P.J. 1890,710.

Toxic effect, with cyanosis.—B.M.J. i./90,288.

Has been used successfully in locomotor ataxy, migraine, neuralgia, chorea, sciatica, and herpes.—B.M.J. i./90,1130; ii./90,85,151; M.C. Mar. 1891, 460; L. i./92,547.

Is an antipyretic, but only in unsafe doses.—B.M.J.E. ii./90,15.

A marked anodyne, with but slight influence on high temperatures.—L. ii./90,845.

As an analgesic, small doses useless, large ones dangerous.—B.M.J. i./91,63.

In 4-grain doses, of marked benefit in nervous headache, facial and intercostal neuralgia, and lumbago; also in Graves' disease.—L. i./92,1173,1175.

Fluoresceïn.—Resorcin-phthalein Anhydride.

In yellowish red crystalline powder, sparingly soluble in water, more so in presence of an alkali; showing a most intense green fluorescence.

Solution of Fluoresceïn 2 per cent., with bicarbonate of sodium 3 per cent., is useful to diagnose corneal lesions. The normal cornea is not stained, but ulcers and parts denuded of epithelium take a green colour, which persists for 2 or 3 hours. Loss of substance in conjunctiva is denoted by a yellow coloration.—L. i./91,447.

Fuchsine.—Rosaniline Mono-Hydrochlorate.

Syn. Magenta; Roseine.

Dose.—½ to 4 grains in a pill, with glycerine of tragacanth.

This aniline product is in brilliant iridescent beetle-coloured crystals, which form an intense deep-red solution in water. Fuchsine is much used for staining histological preparations, and the bacillus of tubercle for microscopic examination.—B.M.J. i./82,916; ii./82,735,786,1156; L. ii./82,183,1078,1138.

For internal use it should be specially prepared, and free from arsenic, otherwise it always contains this poison in variable quantity, owing to the process of its manufacture.—M.T.G. i./70,617. When used as a dye, this impurity may irritate the skin, especially in persons who perspire much.

Useful in renal albuminuria, given in 1 to 4-grain doses in pills.—Pr. xxvi.40,302; B.M.J. ii./79,947; ii./85,1062; Th.Gaz. March,1888,191.

Use of a solution of this colour, between glass plates, in remedying some forms of colour-blindness.—Pr. xxiv.133.

Hydracetin.—*Syn.* ACETYL-PHENYL-HYDRAZIN.

Dose.—½ to 3 grains daily, in 1 or 2 doses.

A white, odourless, and almost tasteless crystalline powder, soluble 1 in 50 of water, freely in alcohol.

Its administration requires care, and must not be continuous.

An impure preparation, in white powder, containing from 20 to 25per cent. of acetyl-phenyl-hydrazin, has been used under the name of **Pyrodin,** with uncertain and variable results as an antipyretic.—B.M.J. ii./88,881, 1470; i./89,1376; L. ii./88,1149,1195; P.J. 1888,425; Y.B. 1890,310.

Hydracetin used as 10 per cent. ointment in psoriasis; cure effected, but toxic symptoms caused by its absorption.—L. ii./89,397; ii./90,38; P.J. 1889,61; B.M.J. i./90,1276.

Kairine. OXYCHINOLINE-ETHYL HYDROCHLORATE.

Dose.—5 to 8 or 15 grains in pills with glycerine of tragacanth, or in cachets. (A patented preparation).

Is used as a febrifuge. It is in minute white granular crystals, freely soluble in water; the aqueous solution is precipitated by ammonia; the taste is saline, bitter, and persistently nauseous. At London Fever Hospital no patient could be induced to take a second dose in solution.

Used in various fevers, and acute inflammations, it may colour the urine green.—L. ii./83,344,552; ii./84, 1125; B.M.J. i./84, 250,711.

Methacetin. — *Syns.* PARA-ACETANISIDIN, OXY-METHYLACETANILIDE.

Dose.—2 to 6 grains in cachets or mucilaginous fluid.

In white glistening scaly crystals, with a slightly bitter, saline taste, and neutral reaction. Soluble 1 in 260 of water, freely soluble in alcohol, chloroform, and glycerine. Is an anti-putrescent, and corresponds in action to phenacetin.—P.J. 1889,861,61; Y.B.1890,306. Useful in rheumatism, unsuitable in phthisis.—Pr.xlv.56.

Methylene Blue.—*Syn.* TETRAMETHYLTHIONINE CHLORIDE.

Dose.—1 to 4 grains; hypodermically, 1 grain.

An aniline derivative in bronze green crystals, forming an intense blue solution in water; purified from zinc, used in its manufacture.

Has been recommended as an analgesic, of service in rheumatism, migraine, neuralgia, and painful nervous affections; has also been used in malarial fever, ague, nephritis, and retinitis, with varying results. Colours urine blue, and fæces acquire blue colour on exposure to air.—L. ii./90,38; i./91,99; i./92,547,817; B.M.J.E. ii./91,126,143,198; i./92,11,47; P.J. 1890,1057; 1891,345; Pr. xlviii.57.

Orexine.—*Syn.* OREXINE HYDROCHLORIDE, HYDROCHLORIDE OF PHENYLDIHYDROCHINAZOLIN.

Dose.—In coated pills, 3 grains each, 1 to 3 once or twice daily, with a cup of broth or hot fluid.

In whitish powder, with a nauseous bitter taste, irritating to the nostrils; freely soluble in water and alcohol.

Acts as a stomachic and appetiser, stimulating gastric secretion.—P.J. 1890,709,43; C. & D. i./90,300.

Stimulating effect rarely found; result consists only in irritation of mucous membrane of stomach. Unless well diluted, vomiting often occurs.—M.C. Jan.1892,237.

Phenacetinum, **Phenacetin.** (*Off.*).—*Syn.* PARA-ACET-PHENETIDIN.

Dose—"5 to 10" increased to 15 grains, in cachets, or suspended in mucilaginous fluids.

An acetyl compound of Phenetidin (the ethylic ether of paramidophenol). It is analogous with acetanilide (antifebrin). It is in white, shining, laminar crystals, inodorous and tasteless, sparingly soluble in water, freely soluble in hot alcohol, insoluble in acid or alkaline solutions. — B.M.J. i./88,1126; i./89,521; ii./89,1417; Y.B. 1890,310.

Doses of 4 to 8 grains reduced temperature in cases of pyrexia, but effects are only of short duration. Phenacetin 3 grains, Citrate of Caffeine and Sugar, of each 1½ grains, is useful for sick-headache.

As a febrifuge, 8 to 12 grains every 4 hours.—B.M.J. i./88,744, 901; P.J. 1888,1005; L. i./89,497.

Is an undoubted antipyretic, 10 cases treated by doses of 5 to 8 grains, action begins within half an hour after administration.—Pr. xl.344; B.M.J. i./88,1113.

Reduces temperature and soothes pain; causes no rash or cyanosis. Successful in rheumatism, neuralgia, migraine, and hysteria.—B.M.J. ii./88,23; i./89,101, 521; Th. Gaz. July, 1889,482; C. & D. ii./88,181.

Recommended in pertussis; no ill effects.—L. i./89, 701; ii./89,871; M.C. April, 1890,32. Useless.—Pr. xlii.296; Th. Gaz. Aug. 1889,537.

Report on the coal tar antipyretics:—Antipyrine the best in regard to efficacy, rapidity, and certainty of action; phenacetin in regard to safety and duration of effects, having never produced subnormal temperature or collapse. All cause profuse perspiration, but do not shorten attack of fever. Phenacetin alone possesses a soothing and soporific action, doses of 3 or 4 grains being sufficient to ensure a quiet night.—Pr. xliii.266.

Phenacetin useful in rheumatism, especially acute articular form; 4 doses of 15 grains, or 2 of 30 grains generally successful.—M.C. April, 1890,33; Th. Gaz. 1890,474.

Useful in some cases of pyrexia of phthisis.—B.M.J. i./91,684.

Of great service in first stage of influenza; relieves headache and mitigates aching of limbs.—B.M.J. i./91, 1282,1383.

Iodophenin.

A dark-brown crystalline powder, obtained by the action of iodine on phenacetin, soluble in alcohol, insoluble in water. Is a strong bactericide, containing about 50 per cent. of iodine, half of which is liberated by solvents, and is apt to produce irritation.—P.J. 1891, 1067; Th. Gaz. 1891,570.

Phenazonum. Phenazone *(Off.).—Syns.* ANALGESINE, PHENYLDIMETHYL-PYRAZOLONE. *Commonly known as* ANTIPYRINE *(a trade mark).*

Dose.—3 to 20 grains in cachets or aqueous solution. Is in pearly white crystalline scales or powder, bitterish in taste, soluble 1 in less than 1 of water, about 1 in 1 of spirit and chloroform, and 1 in 40 of ether. Gives a deep red colour with solution of perchloride of iron. It is an analgesic, febrifuge, and hæmostatic, reduces the temperature of fevers, including typhoid, scarlet, relapsing, puerperal, and hectic, and subdues the pyrexia of pneumonia, pleurisy, phthisis, and erysipelas. In doses of 4 to 15 grains it relieves locomotor ataxy, migraine, facial neuralgia, and sea sickness. Hypodermically for lumbago, sciatica, angina pectoris, biliary and renal colic, and dysmenorrhœa. A measly rash has at times been observed after its use; the urine is not discoloured.—L. ii./84,32; L.i./85,34,1051; B.M.J.ii./84,914; B.M.J. i./85,1223; Edin. Med. Jour. 1884, 390.

To effect material reduction in temperature, 45 to 75 grains are sufficient, given in three doses hourly of 30 grains, then 30 again, and lastly 15 grains; or 15 grains hourly for three hours; 75 grains should suffice for 24 hours. 30 grains dissolved in 16 minims of warm water may be injected hypodermically, or may be given at twice. Peppermint water or essence disguises its taste. It may be administered as an enema if contra-indicated by the mouth. Is incompatible with spirit of nitrous ether, or other nitrites in the presence of free acid, an apparently inert bluish-green compound being formed.—P.J.1889,807; Th.Gaz.Feb.1889,90.

Antipyrine is also incompatible with the cinchona alkaloids, forming a precipitate which is soluble in weak acids.—P.J.1889,61; B.M.J. ii./89,1113.

Liquefactions occur on rubbing it with butyl-chloral hydrate or sodium salicylate, but solutions with the latter keep without perceptible change if dilute.—P.J.1889, 862; Th.Gaz. May, 1889,359. Liquefaction also occurs on mixing with β-naphthol. Quinine hydrochlorate 2, Antipyrine 1, dissolve in 4 of water. Caffeine is also rendered soluble in one-half less water by the addition of an equal quantity of Antipyrine.

Cachets containing 5 to 20 grains are easily taken after being dipped in water.

Granular Effervescent Antipyrine contains 5 or 10 grains in a drachm. *Dose.*—One teaspoonful or more.

Injectio Antipyrin Hypodermica.— 1 grain contained in 2 minims. *Dose.*—8 to 30 minims or more. The pain it causes may be lessened by the addition of cocaine, as in

Injectio Antipyrin et Cocainæ Hypodermica, containing 1 grain of Hydrochlorate of Cocaine in 150 minims of above. *Dose.*—8 to 30 minims or more.

Tabellæ Antipyrin contain 5 grains each. *Dose.*—1 to 4 or more.

Antipyrine useful for children; give three doses of as many decigrammes (1½ grains) as the child is old.—Pr.xxiii.461.

Use in hectic of phthisis; in chronic fever it has no rival.—Pr.xxxiv.321.

Sea sickness relieved.—B.M.J. ii./87,1355; P.J. 1888, 1005.

Collapse particularly frequent in children.—B.M.J. ii./88,977.

Atropine a prompt antidote; another case gradually yielded to an emetic and purgative.—P.J. 1889,607.

Typhoid and pneumonia are relieved by its internal use.—B.M.J. ii./85,865; ii./88,977; L. i./86,495.

Relieves pains of labour, does not check contractions. —Pr. xlii.142; B.M.J.ii./88,211; L.i./88,1100.

Relieves labour pains, but diminishes force of contractions.—B.M.J. i./89.545; L. ii./90,605.

Checks nocturnal emissions, and does not cause acne. —L. i./88,339. Cerebro-spinal meningitis.—B.M.J. i./88,1218.

Chorea quickly relieved.—B.M.J. i./89,119; B.M.J.E. i./91,20; M.C. Jan. 1892,257.

References to the cure of migraine and headache.—B.M.J. ii./87,1379; L. ii./88,163; ii./89,790.

Relieves pains of locomotor ataxy.—B.M.J.i./87,1273.

Rapidly reduces sugar in diabetes.—B.M.J. ii./88, 977. Other successful cases.—Pr. xlii.454; B.M.J. i./89, 1472; ii./89,656; L. i./89,812; ii./89,431.

Hæmoptysis checked.—B.M.J. ii./87,1349; L. ii./87, 880. Fails to check bleeding of wounds.—B.M.J. i./88, 1075.

The best antipyretic, but apt to cause cyanosis.—L. i./88,868,918.

Useful as an anodyne in rheumatism.—L. i./88,1024; B.M.J. ii./88,977; P.J. 1889,607; also in sciatica.—B.M.J. i./89,610; Th.Gaz. April, 1889,232.

To be avoided in kidney disease.—B.M.J. i./88,1185; ii./88,977.

Epistaxis stopped by local use of a 1 in 30 solution. —B.M.J. ii./85,993. Hæmostatic action.—B.M.J.E. i./91,198.

Insomnia treated successfully by 6-grain doses.—Pr. xl.50.

Dissipates pain and oppression in aneurysm.—Pr. xli.376; L. ii./88,448.

Valuable in pertussis.—B.M.J. i./89,1247; Pr. xlvi. 130. Toxic effects following use for whooping-cough.—Pr. xliii.48.

Suppresses flow of milk.—Pr. xlii.209; Th.Gaz. Sept. 1888,647; B.M.J. ii./90,955; M.C. Feb. 1892,319.

Useful in enuresis.—B.M.J. ii./89,838; L. ii./91,326.

Relieves pain of incurable cancer; best combined with morphine.—B.M.J. i./89,355.

Successful in Bright's disease. *Dose.*—3 grains daily.—B.M.J. ii./89,656; L. ii./89,431.

Urticaria cured by 8 grains daily.—Pr. xlii.371.

Antipyrine diminishes the quantity of urine, of total urinary solids, urea and chlorides, and increases uric acid.—B.M.J. ii./88,6,68,977; L. ii./88,55.

Valuable in dysmenorrhœa.—L. i/90,77.

Antipyrine compared with phenacetin.—See p. 134.

Epilepsy in boy of 9 cured by antipyrine, 5, gradually increased to 25 grains, thrice daily.—Pr. xlvii. 125.

Rapid in action in reducing temperature, but this rises again on diminishing frequency of dose. Pyrexia often preferable to saturation with antipyrine.—B.M.J. i/91,684.

Poisoning by 15-grain doses; tinnitus, giddiness, difficulty of breathing, cold sweats, cardiac disturbance, and complete amaurosis during half an hour.—P.J. 1890,1059; Pr. xlv.287.

Impairment of distant sight after a few months' use of 10-grain doses.—L. ii./91,1138.

Antipyrine fatal to microbe of diphtheria.—L. i./92, 1047; B.M.J.E. i./92,79.

Hypnal.—*Syn.* MONOCHLORALANTIPYRIN.

Dose.—15 grains, in cachet or suspended in water.

A compound of antipyrine and chloral, in colourless rhombic crystals, slightly soluble in cold, more so in warm, water. Is sedative and hypnotic, specially useful where there is pain or cough.—B.M.J. i./90,970; L. i./91,387; Pr. xlv. 54; P.J. 1890,889,977,161.

Iodopyrin.—*Syn.* IODANTIPYRIN.

Dose.—5 to 20 grains.

A derivative of antipyrine, in which an atom of iodine replaces one of hydrogen; in white colourless silky needles, tasteless and odourless, slightly soluble in cold water and alcohol, readily in hot. Said to rapidly lower temperature and promote diaphoresis in typhus and phthisis.—P.J. 1891,877; L. i./92,263; B.M.J. i./92,22.

Salipyrin. *Dose.*—15 to 30 grains.

A compound containing 42·3 per cent. of antipyrine and 57·7 per cent. of salicylic acid, in white crystalline powder, with sweetish taste; sparingly soluble in water, freely in alcohol; decomposed by acids and alkalies.

Successful in acute rheumatic fever, but does not prevent relapse; effective also in chronic rheumatism and sciatica. Has antipyretic action, but must be given in dose double that of antipyrine.—B.M.J. ii./90,850; B.M.J.E. ii./90,6; L. i./92,262.

Phenocoll Hydrochloras. Hydrochlorate of Amido-acet-para-phenetidin, a derivative of Phenacetin.

Dose.—7 to 15 grains, in solution or cachet.

A white crystalline powder with sharp saline taste, soluble about 1 in 16 of water.

Reduces temperature without rigors or sweats, of marked effect in rheumatic fever, but none in gonorrhœal rheumatism. Temperature in phthisis reduced almost to normal by 77 grains in 24 hours; day temperature affected more than night; urine coloured reddish-brown.—L. i./91,1060; P.J. 1891,977,265; B.M.J.E. i./91, 141.

On account of solubility is more rapidly absorbed and quicker in action than phenacetin, and appears to possess sedative action of latter in a larger degree. Useful in acute rheumatism; small doses in hectic fever. May be used hypodermically.—Pr. xlviii. 138; B.M.J.E. i./92,16,56.

Pyoktanin. A trade name for **Methyl-Violet.**

An aniline colouring matter, consisting of a mixture of methyl-para-rosanilines, in deep green crystalline powder, forming an intense violet solution in 75 parts of water; soluble 1 in 12 of spirit, also in chloroform and glycerine. Solutions should be freshly made and kept in dark bottles, as they are decomposed by light.

Half to three drachms of a 1 in 500 solution is injected through the healthy skin, deeply and slowly into the tissues adjacent to malignant growths, carcinoma uteri and sarcoma; it is also used as a dusting powder to ulcerated and diseased surfaces, growths, and cavities; also in various eye diseases, ulcers, and in phthisis; is diffusible and unirritating. Its use in foot and mouth disease has been recommended in Germany.—L. ii./90, 38,965; i./91,46,872,1311; i./92,414; B.M.J. i./91, 300; B.M.J.E. ii./91, 62; M.C. Aug. 1890, 419; P. J. 1890, 889.

Has slight antiseptic power, and is no check on suppuration.—L. ii./90,408,783; B.M.J. ii./90,702; ii./91,1163; M.C. 1890, Aug. 419, Nov. 138,150.

A yellow variety of Pyoktanin is said to be an **Auramine.**

Saccharin.—See p. 359.

Thalline, Tetrahydroparamethyloxychinoline or **Tetrahydroparachinanisol.** (Is patented.)

Syn. THALLINÆ SULPHAS, Sulphate of Thalline.

Dose.—3 to 8 grains.

In white or whitish granular crystals, melts at 212° F., has a nauseous, slightly pungent taste, soluble 1 in 5 of cold water, which darkens by exposure to light. It possesses marked antipyretic properties, but diminishes the respiratory capacity of the blood by destroying its hæmoglobin, in this respect resembling kairine rather than antipyrine. Reports of its action are found to vary; some have noticed a gradual fall in temperature and absence of secondary disturbance, whilst others note a sharp fall, followed by rigors.—L. ii./84 1018; L. i./85,723; B.M.J. i./85, 1176.

Bougies of Thallin, 2½ and 5 per cent. Contain 1 or 2 grains in each, combined with gelatine, and **Antrophores,** or spiral spring bougies coated with gelatine, and medicated with 5 (or weaker 2½) per cent. of thalline, have been used for gonorrhœa. —L. i./88,591; B.M.J. ii./88,886.

Report from Zurich, it is better than kairine, and less valuable than antipyrine.—Pr. xxxvi.127; L. ii./86,386.

Fatal effects follow its use. A case in which dose was increased up to nine grains proved fatal; four grains should not be exceeded.—B.M.J. i./87,793.

Successful use of injections of 1 to 2 per cent. in gonorrhœa.—L. ii./88,392,437.

COCA (*Off.*).

Syn. CUCA.

Dose.—½ to 2 drachms.

The dried leaves of *Erythroxylon Coca*, a shrub cultivated on the slopes and plateaux of the Andes, chiefly in Bolivia and Peru, but also in the Argentine Republic, Ecuador, United States of Columbia, and Central America, as far north as San Salvador.

They are one to two or more inches long, oval oblong, but some are ovate, while others are obovate, entire on the margin, sometimes acuminate, but usually blunt and emarginate, and often with an apiculus in the notch at the apex; rather thin, smooth, with a prominent midrib, and on each side a curved line running from the base to the apex. They have a slight odour of tea, and a somewhat grass-like, bitter, aromatic taste; in colour they vary from a pale bright green, changing to a yellowish green (North Peruvian or Truxillo variety)—these are smaller, thinner, and much broken—to a dull brownish olive (Bolivian variety,* now thought to be a distinct species, *E. bolivianum*, Burck)—this is larger, broader, and a thicker leaf, not broken, paler in colour beneath; the midrib has a distinct ridge on the upper surface, and the inner curved lines from base to apex are very marked on this, but only faintly on the Truxillo variety, in some leaves hardly discernible. In selecting them, care should be taken that they have not fermented or become fusty; they may appear of a good green colour, yet have a mouldy taste. The Coca plant has been acclimatised in Ceylon, Java, and some parts of India.

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* In London commerce this is known as Huanuco Coca,—why, is uncertain. It is difficult to trace,—some arrives *viâ* New York.

The uses of the Coca leaf in Bolivia and Peru have been described by many travellers, who have seen it chewed. From two to eight or twelve drachms or more is used daily, in conjunction with the ashes of the Quinoa plant or with lime, as a remedy for, or preventive against, the effects of extraordinary physical exertion, to relieve the difficulty of respiration in ascending mountains, and to appease hunger, thirst, and fatigue. The leaves contain the crystalline alkaloid Cocaine (see page 143). They are said to be most active when freshly dried, and are much used by the native Indians, miners, travellers, and others.

Elixir Cocæ.—1 in 6 of Simple Elixir.

Dose.—1 to 4 drachms in water is a palatable preparation.

Extractum Cocæ Liquidum (*Off.*).

Syn. EXTRACTUM ERYTHROXYLI FLUIDUM, U.S.

Dose.—½ to 2 drachms.

Coca leaves are exhausted by percolation with proof spirit, the second part of percolate concentrated and dissolved in the first portion, and the strength adjusted so that 1 ounce = 1 of leaves; this preparation contains all the properties of the leaf. If freed from wax, it is miscible with water and more palatable.

By distilling off the spirit and concentrating by evaporation, a solid semi-alcoholic preparation is obtained about four times the strength of the above, known as:—

Extractum Cocæ.

Dose.—2 to 15 grains or more, in pills or pastils.

Infusum Cocæ.—1 in 50 of boiling water.

Taken hot like tea with milk and sugar, or with a slice of lemon, it forms a refreshing beverage. In tonsillitis it may be used warm as a gargle.

Pastillus Cocæ Extracti.—2½ grains of the extract in each.

Dose.—One every two or three hours.

Vinum Cocæ.—About 1 in 8 of Sherry.

Dose.—½ to 1 ounce, diluted with wine or water. Checks vomiting of irritable stomach.—L. ii./85,1078.

This is strongly medicated; it must contain half a grain of alkaloid in the ounce, else it cannot be sold without a licence. Weaker preparations, containing about 1 in 20 or 30, are sold by wine merchants.

Coca has been praised as a nervine and muscular tonic, preventing waste of tissue, appeasing hunger and thirst, relieving fatigue, aiding free respiration, and as being useful in various diseases of the digestive and respiratory organs. It is said to be specially useful in many forms of asthma, chronic bronchitis, obstinate cough, phthisis, and general debility; in gastric derangements, owing to its slight astringency, it seems to give more tone to the stomach than the mere anæsthetic action of the Cocaine it contains would produce locally; it is recommended for indigestion, gastralgia, gastrodynia, nausea, sickness, distaste for food, is given to relieve pain, nausea, vomiting or discomfort caused by excess in either eating or drinking or by pregnancy, and as a cure for morphine and alcohol craving. In using it for this in America it is said in some cases to have produced "Coca Craving."

Coca is also said to cause mental exhilaration, has been used in melancholia, in cases of inordinate hunger or thirst, such as occur in some forms of diabetes, and in cases of generative debility. Locally, a solution of the extract in water has been used as a pigment in irritated, inflamed, and granular conditions of the larynx and pharynx.

The pastils have been used similarly for loss of voice due to weakness or relaxation of the vocal cords. Topically these preparations act as astringent sedatives without deranging the stomach. Externally, Coca may be made into poultices, or a plaster made with the extract combined with resin or soap plaster may be applied for rheumatism, lumbago, &c. The leaves are sometimes smoked to relieve asthma.

The leaves are chewed to appease hunger and support strength, in the absence of food, and used generally for the stimulant and narcotic effects of tobacco and alcohol.

Is of use to steady the nerves of excitable persons—to a sportsman in shooting, for example; to give endurance, is used by travellers in Bolivia and Peru, and to counteract the effect of rarefied air on mountains.—L. ii.76,449.

Historical and botanical account of the plant and its uses; the result of a series of experiments on its use was most unsatisfactory, although the drug was given in every variety of ways, under all circumstances, and at all hours of the day.—L. i./76,631,664.

Two ascents of Ben Voirlich, under the influence of, respectively, 60 and 90 grains, done with ease by Sir Robert Christison. By the use of Coca hunger and thirst are suspended, but eventually appetite and digestion are unaffected; the mental faculties are not affected after great bodily fatigue, except by freeing them from dulness and drowsiness.—B.M.J. i./76,527; P.J. 1876,883.

Twelve athletes, during a game, chewed, without lime or ashes, from 60 to 90 grains; at first in some, dryness was felt, and relieved by washing the mouth; then followed a feeling of invigoration, so that fatigue was wholly or in great part resisted; the pulse increased in frequency, and perspiration augmented. Save exhilaration of spirits, no mental effects were noticed or disagreeable effects realized.—P.J. 1877,221.

It enables a greater amount of fatigue to be borne with less nourishment, and lessens the difficulty of respiration in ascending mountain sides. Tea made from it has much the taste of green tea, and is much more effectual in keeping people awake.—Markham's Peruvian Bark, p. 152.

Use in walking feats.—B.M.J. i./76,335,361,387,518, 519,750,752.

The leaves are neither nutritive nor tonic; it is in their anæsthetic properties, developed by chewing the leaves with lime or plant ash, the Indian finds the numbing effect on the mucous membrane of the stomach that he seeks.—P.J. 1885,266.

Report on the Coca alkaloids, chemical and physiological.—B.M.J. i./89,1043,1108,1158.

Cocaina, Cocaine.

Dose.—$\frac{1}{20}$ to 1 grain, in a pill or tablet.

This now important alkaloid, obtained from Coca, was first isolated by Niemann in 1860. It crystallizes in shining monoclinic prisms, and requires 700 or more (upwards of 1,300, Dr. Paul) parts of water to dissolve it, soluble about 1 in 20 of alcohol and melted vaseline, freely so in chloroform, ether (about 1 in 3), oil of cloves, and many other volatile oils, and 1 in 10 of castor, and other fixed oils. The vaseline and castor oil solutions diluted have proved serviceable in eye cases. The following are also ready solvents, each taking up about 1 of it in 3 parts: benzol, toluol, and amylic alcohol; of petroleum spirit about 25 parts are required. Hot water decomposes it, forming an acid solution which contains benzoyl-ecgonine, ecgonine, and benzoate of Cocaine. It is almost tasteless, but produces a tingling numbness on the tongue and local anæsthetic action on all mucous membrane. Good Coca leaves yield 0·5 per cent. or more of Cocaine, but the average is less, if fermented—often *nil.* Cocaine seems to be very sensitive to chemical and physical action, and readily yields derivatives. In working the dried leaves the following compounds are also met with: Hygrine (a volatile alkaloid), Benzoyl-Ecgonine and Ecgonine, Cocamine, and Cocaidine, accompanied by Coca-tannin and Coca-wax. All the Coca alkaloids are derived from ecgonine methyl-ester, and ecgonine itself from pyridine. Ecgonine (together with benzoic acid and methyl-alcohol) may also be obtained as a derivative from Cocaine, and by heating benzoyl-ecgonine, a by-product obtained in the manufacture of and probably a derivative of Cocaine, mixed with iodide of methyl and methyl alcohol, Cocaine (methyl-benzoyl-ecgonine) has been obtained synthetically. On combining Cocaine with benzoic acid, benzoyl-ecgonine appears to be formed—the aqueous solution of these is not precipitated by ammonia.

Isatropyl-cocaine, or truxilline, said to be contained more especially in *E. Coca, var. novo-granatense,* Dyer, is stated by Liebreich to be a heart poison, and not to produce anæsthesia.—P.J. 1890,162; 1891,1109,1129, 101; 1892,771.

Most of the Cocaine now used is manufactured in a crude form in Lima, and is purified and recrystallised or converted into the hydrochlorate after its arrival in Europe.

No coloration is produced by dissolving pure Cocaine or its hydrochlorate in cold concentrated sulphuric acid; with the salt, effervescence occurs, owing to hydrochloric acid gas being set free. Some samples of them give a faint evanescent yellow coloration, and others give a magenta tinge which gradually passes to a brownish yellow, and eventually the solution becomes almost colourless.

If Cocaine or a salt be moistened with nitric acid, evaporated to dryness, and a drop of alcoholic caustic potash added, a characteristic peppermint odour is developed.—P.J. 1890,162.

As pure Cocaine (the alkaloid) is soluble in fats and oils, and its salts are not, it should always be used when it has to be combined with fatty or oily substances, for use externally, *e.g.*:—

Bougies of Cocaine. $\frac{1}{2}$ grain in each or more, with cacao-butter. Are useful in painful affections of the urethra.

Ceratum Cocainæ. 1 in 30 of petroleum cerate. Is useful in burns, scalds, urticaria, pruritus, &c.

Collodium Cocainæ. 2 per cent. in flexible collodion. Allays the itching, and is a cure for inflamed chilblains.

Emplastrum Cocainæ.—1 dissolved in 50 of lead plaster heated in a water bath. Useful for intercostal neuralgia, sciatica, tender corns, bruises, &c.

Oleatum Cocainæ.

A saturated solution of the alkaloid in oleic acid; heated, one part will dissolve in two parts of oleic acid; it may be further diluted with oleic acid or oil. Has not proved so satisfactory a preparation as

Oleum cum Cocaina.

A 2 per cent. solution, more or less, if ordered, in almond oil, is mostly used. This is useful for earache. For the eye a 2 per cent. solution in **Castor Oil** is used, may be combined with homatropine (see p. 75); for catheters, a solution in equal parts castor and almond oils does well, it is viscid, and does not congeal in winter.

Suppositories and Pessaries of Cocaine have $\frac{1}{2}$ grain (or more, if ordered) in each with cacao-butter.

Tabellæ Cocainæ, Cocaine Tablets. $\frac{1}{20}$ grain in each, with chocolate.

Dose.—1 every quarter-, half-hour or hour, quickly eaten and swallowed. Useful for sea sickness, chloroform or alcohol sickness, sickness of pregnancy, &c. They are also made containing $\frac{1}{12}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{5}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, 1, and 2 grains in each respectively.

Unguentum Cocainæ. 1 in 30 of lard or lanoline (more or less, if ordered). Cocaine is soluble 1 in 2 of anhydrous lanoline if gently warmed.

Useful where absorption is required, as in facial neuralgia, shingles, eczema, erysipelas, urticaria, and pruritus.

Vaselinum Cocainæ. 4 per cent. (more or less, if ordered).

Suitable for the eye; is very bland; also for smearing catheters, burns, scalds, &c.

Cocainæ Citras, Citrate of Cocaine.

Dose.—$\frac{1}{20}$ to 1 grain or more.

Is in deliquescent small white crystals; used by dentists.

Cocainæ Hydrobromas, Hydrobromate of Cocaine.

Dose.—$\frac{1}{20}$ to 1 grain, in a pill or solution. Is a stable salt, in odourless, small, white, hard, acicular crystals.

Cocainæ Hydrochloras (*Off.*).

Off. Dose.—$\frac{1}{8}$ to 1 grain, but less and more may be given, in aqueous solution, pill, or pastil.

This salt has been most used: if pure it is found in hard, colourless, short acicular crystals, or now more frequently met with in light, shining, lamellar crystals, free from odour and almost tasteless; being soluble in half its weight of water, the tingling numbness or local anæsthesia it produces on the tongue is more intense than that produced by pure cocaine.

Freely soluble in spirit and in glycerine, insoluble in ether, fats, and oils, and therefore it is not so compatible with them. This salt will crystallize with 9·5 per cent. of water of crystallization, but the anhydrous salt alone is official. It dissolves with effervescence but without colour in cold sulphuric acid (see Cocaine, p. 144), but chars if heated. Ignited in the air, it burns without residue. Its aqueous solution gives a white precipitate with carbonate of ammonium, soluble in excess. ' If one drop of solution of permanganate of potassium, B.P., be added to a solution of 1 grain of it in a drachm of distilled water, acidulated with three drops of diluted sulphuric acid, the bright deep colour of the solution, if kept covered, should not change during half an hour, indicating absence of other alkaloids of Coca, or any other organic matter. The salt should not only be in good crystals, but should yield a distinctly crystalline precipitate of pure Cocaine within three minutes, when 1 grain of it is dissolved in 2 ounces of distilled water, and six to eight drops of solution of ammonia, B.P., are added and well stirred. If more than 4 per cent. of amorphous alkaloids are present, the mixture will only show a milky cloudiness. The precipitate redissolves after twenty-four hours or more, the Cocaine being converted into methyl alcohol and benzoyl-ecgonine.—P. J. 1888, 783. If a trace be mixed with a minute quantity of calomel and breathed upon, the mixture assumes a black colour. This will only answer with the salts of Cocaine, not with the alkaloid itself.

As with an aqueous solution of sulphate of atropine, so with an aqueous solution of hydrochlorate of cocaine, some samples seem prone to grow fungi, while others will not. Evil results having followed the application of Cocaine as an anæsthetic in several dental and eye operations, the bad effects have been attributed to these fungoid growths. Whether due to these, to impurity of the salt, or to the condition or idiosyncrasy of the patients is not clear. Three London surgeons who have used it very largely say they have never seen any untoward results from its use in simple aqueous solution. Carbolic, boric, and benzoic acids, perchloride of mercury, thymol, camphor, and chloroform have been added to check the growth of fungi; a half to one per cent. of boric acid has been particularly recommended, yet it is of little use, as an aqueous solution of boric acid itself sometimes grows a fungus; chloroform is the least objectionable, except for eye drops. Perchloride of mercury is useless, as it forms a double salt with the Cocaine. But salicylic acid has been found to be the most effective, and its addition is now ordered in the official solution (see p. 148). *The brush applying it should not be dipped in the stock of solution)*

Buginaria Cocainæ Hydrochloratis, NASAL BOUGIES OF HYDROCHLORATE OF COCAINE.

One-sixth of a grain in each with gelato-glycerine basis. Useful in hay fever, sometimes combined with $\frac{1}{120}$ grain of sulphate of atropine in each.

Hypodermic Lamels of Cocaine contain $\frac{1}{4}$ grain.

Injectio Cocainæ Hydrochloratis Hypodermica. 1 grain in 20 minims.

Dose.—2 to 10 minims. For sciatica and many local affections acts better than morphine.

Lamellæ Cocainæ, Discs of Cocaine (*Off.*).

Discs of gelatine, each containing $\frac{1}{200}$ grain of hydrochlorate of cocaine. These should be prepared in an atmosphere carefully freed from dust and germs of fungi and disease. Also prepared containing $\frac{1}{50}$ grain in each, and in combination with Atropine (p. 71), Homatropine (p. 75), and Physostigmine (p. 325).

Liquor Cocainæ Hydrochloratis (*Off.*). **Solution of Hydrochlorate of Cocaine.**

Salicylic Acid $1\frac{1}{2}$, Boiling Distilled Water *q.s.* to produce 1000 when cooled and Hydrochlorate of Cocaine 100 added. *Dose.*—2 to 10 minims.

This forms a stable 10 per cent. solution, which for the use of oculists may be diluted to a 2 per cent. solution, and still remain free from tendency to develop fungoid growths. The salicylic acid remains as free acid in the mixture, as with perchloride of iron it gives a more permanent violet coloration than the so-called salicylate of cocaine. The official solution may be used as an application for producing local anæsthesia or for hypodermic injection, for which purpose it is found to be unirritating. A solution up to the strength of 50 per cent. may be prepared in salicylic acid solution of the above strength, which is nearly saturated.

Pastillus Cocainæ Hydrochloratis. $\frac{1}{20}$ grain in each (or more if ordered, *e.g.*, $\frac{1}{12}$, $\frac{1}{10}$, $\frac{1}{8}$, $\frac{1}{6}$, $\frac{1}{5}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{1}{2}$, 1, and 2 grains respectively).

Useful in allaying irritation of the throat and hoarseness. They invigorate the vocal organs of singers and public speakers.

Pastillus Cocainæ et Morphinæ contains $\frac{1}{30}$ grain Cocaine and $\frac{1}{60}$ grain Morphine. Useful for coughs.

Pilula Cocainæ Hydrochloratis. $\frac{1}{5}$ grain in each (or more, if ordered), with sugar of milk and syrup.

Syrupus Cocainæ. Solution of Hydrochlorate of Cocaine, B.P., 22 minims, Syrup of Orange Flower to 1 ounce. *Dose.*—1 drachm, = $\frac{1}{4}$ grain.

Tabloids of Hydrochlorate of Cocaine. $\frac{1}{10}$ and $\frac{1}{6}$ grain each. Are prepared for hypodermic injection.

Trochisci Cocainæ Hydrochloratis. $\frac{1}{12}$ grain in each. Used for similar purposes to the pastils.

Cocainæ Nitras. *Dose.*—$\frac{1}{8}$ to 1 grain.

In large colourless crystals, readily soluble in water. Is compatible with nitrate of silver, and if used in equal quantity in solution for injection lessens the pain caused by the latter salt.

Cocainæ Phenas, Carbolate of Cocaine (?) *Dose.*—In pill, ½ to 1 grain. A slightly soluble pasty compound, used by dentists and given for gastralgia.

Cocainæ Salicylas. *Dose.*—⅕ to 1 grain or more. Is in minute snow-white crystals, slightly deliquescent; it forms a solution which keeps well, but is a doubtful salt. In spasmodic asthma, the hypodermic injection of a good dose (6 grains), at the beginning, relieves the attack.—B.M.J. ii./86, 117.

Cocainæ Sulphas. *Dose.*—⅕ to 1 grain.

A deliquescent granular white powder.

The curious property cocaine possesses of producing local anæsthesia was even noted by the discoverer of the alkaloid—Niemann, who, so far back as 1860, wrote: "It produces temporary insensibility on the part of the tongue with which it comes in contact" (Watts's Dict., i. 1059, *ex* "Ann. Ch. Pharm." cxiv. 215). This interesting fact lay dormant until in 1884 Herr Koller, in Vienna, was led to test the local anæsthetic action of the hydrochlorate of the alkaloid, on account of the effect he had witnessed when cocaine in solution was pencilled upon the pharynx to render it less susceptible in laryngoscopic examination. A vial of the solution was given by Herr Koller to Dr. Brettauer, of Trieste, who, on Sept. 15th, 1884, demonstrated its properties at the meeting of the Ophthalmological Congress in Heidelberg. Several experiments were made with the two per cent. solution, which showed that when two drops of the liquid were placed upon the surface of the normal cornea, and the application repeated after an interval of ten minutes, at the end of ten minutes more, the sensibility of the cornea was so far diminished that it could be pressed with a probe; the cornea and the surface of the eyeball and eyelids adjoining could be rubbed; a speculum could be inserted and the lids widely separated, the conjunctiva could even be seized with fixation forceps, and the eye moved in various directions without causing the patient notable discomfort.

Besides rendering the superficial structures of the eye anæsthetic, it is a mydriatic, and paralyses the accommodation, which passes off sooner than the dilatation of the pupil; this does not at longest last more than twelve hours. The sensitiveness of the iris is less affected than that of the surface of the eye. The great excellence of cocaine consists in the limitation of its action to the tissues to which it is applied. No doubt, other symptoms at a distance do result from the application of the anæsthetic, but they have been, for the most part, insignificant and free from dangerous consequences. In some measure cocaine may be compared with curare. The one agent paralyses the termination of the sensory nerves, whilst the other paralyses the termination of the motor nerves. Cocaine would seem to act in a manner the reverse of aconite. When applied to a mucous membrane, it has probably a constricting action on the vessels, produces a blanching of the part, and simultaneously a deadening of the nervous excitability which passes into a complete state of anæsthesia; its effect, however, does not sink deeply into the adjacent tissues, nor does it last long. This surface application is sufficient to render painless the use of a caustic, the passage of catheters and lithotrites, or the performance of operations which do not involve the more deeply-seated tissues. Such operations as the opening of abscesses and buboes, the removal of small tumours, require the surface anæsthesia to be supplemented by two or more hypodermic injections, of a quarter of a grain in each, of the hydrochlorate in close contiguity to the part to be operated on. Injected hypodermically, the aqueous solutions of its salts deaden sensibility around the puncture, so that the deep prick of a pin is not felt—the surrounding part is reddened, but after thirty minutes it resumes its normal condition; injected locally, is more useful than morphine in relieving sciatica. Although solutions of it are little absorbed by the skin,—even a chloroform solution is scarcely at all absorbed,—yet the application of an ointment of the pure alkaloid, made with lard, or an oily solution of it, to a surface will remove the pain of inflammation, as in eczema or erysipelas, or the pain of facial neuralgia or shingles, and the irritation of urticaria or pruritus. Burns and scalds should first be brushed over with a 4 per cent. aqueous solution of the hydrochlorate, and the pure alkaloid combined with carron oil (Linimentum Calcis), petroleum cerate, or boric acid ointment, afterwards applied on cotton wool or lint. Combined with boric acid ointment, also, it may be used for fissured nipples, or for these and stings and bites of insects an aqueous solution may be applied. The irritability of inflamed mucous surfaces, as in hay-fever, influenza, coryza, bronchitis, spasmodic asthma, laryngitis, and pharyngitis, is much relieved by the spray of a watery solution of a cocaine salt. In obstetrics, its local application relieves the pain of the dilating os uteri, and diminishes the sensibility of the perinæum whilst being dilated in first labours; rents of the perinæum may be stitched up almost painlessly under its action, and under its influence many minor gynæcological operations are much facilitated by the ability to insert needles and make small incisions without pain. The spasmodic and painful affections of the vagina, causing dyspareunia and vaginismus, may be minimised, by vaginal injections of a quarter of a grain of cocaine in 1 per cent. oily solutions. In dentistry, it is useful in toothache; it deadens the sensibility of exposed pulp. The pure alkaloid is preferable to the salts for this purpose, as, being only slightly soluble in water, it is less liable to be washed away by the saliva. If a little be inserted in the cavity of a carious tooth and covered with a plug of mastic solution, all pain is obtunded for a considerable time. A strong solution in oil of cloves is also useful. In preparing the cavity, previous to filling, the sensitiveness of the dentine is more effectively treated by using a salt of cocaine—either the hydrochlorate or citrate; the latter has been recommended, as it can be formed into a pellet with the fingers and pressed into the cavity, but it is not so rich in true alkaloid as the hydrochlorate; yet, either of these is absorbed more quickly than the alkaloid itself, which, as before said, is more suitable for plugging a cavity for some length of time. Before using arsenical paste to destroy the nerve when exposed, if about a quarter of a grain of a cocaine salt be inserted into the cavity, after partially clearing, it will anæsthetize the pulp in about five minutes, and enable the operator thoroughly to open the cavity and expose the pulp directly to the action of the arsenical paste without pain to the patient. In extraction, if a dose be hypodermically injected into the gum on each side at the base of the tooth, after waiting about five minutes this may be done almost painlessly, and, if a 50 per cent. aqueous solution of the hydrochlorate be painted on the surrounding gum, the first pain of inserting the forceps is annulled. The eye, ear, throat, mouth, tongue, pharynx, nose, larynx, trachea, urethra, vagina, os uteri, anus, rectum, and, in fact, the whole mucous membrane, as well as cut surfaces and open sores, are affected by it, but the true skin is less so.

Solutions of hydrochlorate of cocaine have been employed topically in excision of the tonsils, cauterizing the turbinated tissue of the nose, painting chancres previous to the application of nitric acid or other caustics, opening abscesses, removing polypi, and many cases of iridectomy and operation for cataract, squint, and the removal of foreign bodies from the eye. For the eye an aqueous solution of the hydrochlorate of cocaine of mostly 2, but sometimes 4 per cent. is used, and for other purposes; from 4 to 20 or even 50 per cent.; of the weaker solutions it is necessary to repeat the application three to five times, at intervals of three to five minutes. No operation should be commenced within at least ten minutes of the first application. Injurious effects, either local or constitutional, rarely follow its use. Its action commences in three minutes, increases from ten to twenty minutes, and mostly disappears within half an hour. The anæsthesia may be prolonged by applying an Esmarch's bandage round the site of injection.

Summary of its uses by fifty-two Surgeons in the U.S.—In minor surgery is of value in all operations where circulation can be temporarily arrested,—used in solution of not more than 4 per cent. Is of little use as a local anæsthetic in anal work, such as fistula. In genito-urinary surgery must be used with care; should not remain in contact with mucous surface more than a few moments. In gynæcological work is of limited service. For ophthalmic surgery Cocaine is the anæsthetic *par excellence*,—in this its use is most widespread, and its application most satisfactory; it is suitable for all operations on the eyeball except iridectomy for acute glaucoma and enucleation; as it causes dryness of the epithelium it should not be used long prior to operation. Is of great value in nasal, aural, and throat operations.—Th. Gaz. 1891,518.

Chloroform and Cocaine Anæsthesia (combined).

Chloroform is given, 1 to 3 drachms, with an Esmarch's mask, and from ½ to ¾ grain of cocaine, in 3 to 5 per cent. solution, injected into the part. Less chloroform suffices, vomiting is rare, and depression on waking slighter than chloroform alone produces.—L. ii./88,220; B.M.J. ii./88,903; Th. Gaz. 1888,630; 686, 849.

Equal parts of an 8 per cent. solution and liquor atropinæ sulphatis form an effective remedy for all painful and inflamed conditions of the eye; and half a grain of pilocarpine nitrate, added to 1 drachm of a 4 per cent. solution, produces anæsthesia without in the least disturbing the accommodation.—Whitla.

As regards the toxic properties of cocaine, its effects appear to be mild and not cumulative. It causes cessation of respiration,—small doses have an exhilarating effect on the nerve-centres and other parts of the nervous system. In a case of attempted suicide by an apothecary, a dose of 1·5 grammes (23 grains) seemed to have no seriously injurious effect.—Varge's "Zeitschr." v.f. 11, 5, p. 222, 1863.

A writer in the *British and Colonial Druggist*, Feb. 1885, p. 36, describes the effect of doses of the hydrochlorate, equivalent to 32 grains of cocaine itself taken within three hours. After eleven hours, sleep intervened for thirteen hours, followed by a feeling of dizziness on waking, which entirely disappeared in twenty-four hours.

By physiologists, it had been supposed that cocaine would have properties allied to, if not identical with, caffeine, theine, or theobromine, in the manner that these themselves are allied. But, chemically, cocaine is quite distinct; it is much less soluble in water than caffeine; it is a strong base, which caffeine is not, and its chemical constitution and derivatives are quite distinct from those of caffeine.

Opinions are at present divided as to whether the anæsthesia produced by Cocaine is the result of vasomotor disturbance, the small vessels are caused to contract by its application, and the nervous filaments are doubtless anæmic, or whether Cocaine acts directly as a paralyser on the nervous endings, whether of sensibility, or touch, or of special sense, since it removes the power of taste and smell, as well as the perception of touch and pain. When Cocaine is administered in such a dose and manner as to affect the whole system, the brain seems to become excited, the heart stimulated, and blood pressure increased. Poisonous doses kill by asphyxia, the breathing becoming arrested and the heart failing in diastole; but this has not yet been observed in man, the dose necessary to produce this effect being very large; 20 grains have been taken without very serious result. It diminishes all the secretions, and, although the intestinal movements are slightly stimulated at first, larger doses or continued use cause sluggish action, dyspepsia, and constipation. Tissue change is lessened, and the amount of urea is similarly diminished; the temperature seems to be somewhat higher than normal; albuminuria has been found to follow its use, and sugar has also been found in the urine. The kidneys are probably the special means of its elimination. With regard to its action on muscular fibre nothing is known, observers being completely at variance in their opinions. —Buxton, in Ringer's "Therapeutics," 11th edition.

Mosso, in Pflüger's Archives, concludes that Cocaine paralyses the motor nerves and acts on the ganglion cells of the spinal cord. After large doses the patellar reflex may be lost. In small doses is a stimulus to tired muscle.—B.M.J.E. i./91,63.

In Vienna, Cocaine has been recommended for use internally in cases of great exhaustion, such as loss of blood, sunstroke, or diarrhœa, also by mouth or hypodermically as a cure for morphine and alcohol craving. Morphine and cocaine appear to be mutually antagonistic. Cocaine has been used in some cases of melancholia and insomnia; it also possesses aphrodisiac properties. It was likewise found to lessen the desire for sleep and feeling of hunger, and to be a stimulant which quickly increases and sustains, in a harmless manner, the physical powers of the body, such as are required in long marches, mountain ascents, &c., in dose of ¾ to 1½ grains.

Cocaine is a stomachic, useful after excess either in eating or drinking, in distaste for food, in sea sickness and vomiting of pregnancy or from other causes; it also improves the condition of the stomach in atonic indigestion and nervous affections of this organ, as well as in phthisis and cachectic cases, especially those arising from the use of mercury.

Cocaine is a mydriatic; slightly raises the temperature, quickens respiration, and pulse is more frequent; by long use, sleep is longer and more profound. Improves nutrition, useful in insomnia and simple melancholia.—M.R. 1883,86; B.M.J. i./85,1303.

Solution painted on or injected into piles relieves the pain of operating on them.—B.M.J. i./85,227; ii./86, 586; L. i./86,527.

References to its surgical use as a local anæsthetic:—L. ii./84,608 (ophthalmic), 683 (ophthalmic), 936 (laryngeal), 975 (ophthalmic), 975 (nasal), 992 (ophthalmic), 1022 (physiological action), 1023 (ophthalmic and aural), 1068 (ophthalmic), 1097 (ophthalmic), 1123 (ophthalmic and dental), 1167 (circumcision and catheter passing); L. i./85,86 (uterine, vaginal, and oral), 123 (in tenesmus), 130 (on mucous membranes), 168 (dental), 220 (rectal), 226,315 (minor surgery), 965 (ophthalmic), 1033 (fistulas, canals), 1067 (ophthalmic), 1097 (nasal), 1112 (ophthalmic); B.M.J. ii./84, 761 (ophthalmic), 1074 (laryngeal), 1132,1142,1143,1249,1256 (ophthalmic), 1133 (dysphagia), 1188 (throat and nose), 1255 (laryngoscopic), 1256 (midwifery and tinnitus); B.M.J. i./85,45,77,134,145,863 (effects on the eye); B.M.J. i./85,24,36,77,235,286,456,792,1266 (ophthalmic surgery); B.M.J. i./85,36,47,209,456,479 (nose and larynx); B.M.J. i./85,377 (cancer); B.M.J. i./85,227, 653,994 (rectal operations); B.M.J. i./85,17,36,47, 361,904 (vagina and urethra); B.M.J. i./85,17,24, 36,69,736,926 (in dentistry); B.M.J. i./85,402 (for scalds); B.M.J. ii./85, 396 (tumour of lip removed); B.M.J. ii./85,1060 (removal of ingrowing toe-nail); L. ii./85,829 (preceding iodine injection in hydrocele); B.M.J. ii./86,413 (dilatation of urethra); B.M.J. ii./88, 491; i./89,1113 (minor surgery); B.M.J. i./89,943 (circumcision).

Translation of Carl Koller's report of the earliest observations on the use of cocaine and its salts as local anæsthetics.—L. ii./84,990.

Hydrochlorate of cocaine, 20 per cent. solution allowed nitric acid to be applied to tongue without pain.—L. ii./84,1023. For warts.—L. i./85,1052.

In skin diseases, relieves the inflammation in eczema and acne and the irritation of urticaria.—L. i./85,76.

Physiological action.—L. i./85,439; i./88,1041.

Physiological experiments on animals.—B.M.J. ii./84, 1313; B.M.J. i./85,17,97,863.

Chemical researches by Paul.—B.M.J. i./88,709.

Hay fever relieved by solution applied locally to nose and eyes.—L. i./85,925; ii./85,50,99,123,232,820; B.M.J. i./85,1084,1291; ii./86,18; i./88,1329.

In coryza, 4 per cent. solution useful applied on cotton wool.—B.M.J. i./85,430,1084.

Summary of its effects on the eye, viz., dilatation of pupils, constriction of small peripheral vessels, paralysis of accommodation, and enlargement of the palpebral fissure; the effect is local only, by paralysing the endings of the sensory nerves, and irritating the sympathetic nerves.—Pr. xxxiv.1; B.M.J. i./85,1303.

The painless removal of urethral caruncles.—B.M.J. ii./85,153; and of epithelioma.—L. i./87,56.

In obstetrics, several valuable applications.—Pr. xxxiv.65; L. ii./87,754,1061; ii./90,474.

Gonorrhœa, acute, 2 per cent. solution injected relieves the pain.—Pr. xxxiv.222.

Rectal and prostatic pains relieved by ½ grain suppositories.—Pr. xxxiv.128.

Dysmenorrhœa, the pain of, removed by painting the cervix with 4 per cent. solution.—B.M.J. ii./85,399.

In supra-orbital neuralgia, a 10 or 20 per cent. solution in oil of cloves rubbed into the part affords immediate relief; with summary of its medical uses.—Pr. xxxiv. 59; M.R. 1884,516.

In sea sickness, several cases, $\frac{1}{16}$ grain doses every two or three hours in aqueous solution were successful. A girl of 18 had been sick 24 hours before it was tried; she had a double dose every half-hour with "truly magical effect."—L. ii./85,451,912; B.M.J. ii./85,627.

Sea sickness effectually checked by two lozenges each containing $\frac{1}{12}$ grain of hydrochlorate of cocaine taken when first threatened and two more in twenty minutes. One-grain doses in solution also effectual.—P.J. 1886,712; B.M.J. ii./87,1236.

Vaginismus, ointment and pessaries of cocaine useful.—B.M.J. ii./88,720,817. Relief temporary only; B.M.J. ii./88,790.

Morphine habit of three years' standing, 8½ grains taken during three days was successful in curing.—B.M.J. ii./85, 1112. Counteracting effects unsatisfactory.—L. i./89,287.

Poisonous effects attributed to use in fourteen eye cases and three hypodermic injections.—B.M.J. ii./85,983.

Cases of fainting when solution of cocaine salt was applied to the eye.—B.M.J. ii./85,1060; i./86,67. Also after hypodermic injection.—Pr. xxxiv.450.

In eye operations, the diminished elasticity produced by cocaine may cause inconvenience.—L. ii./85, 1158.

Fungoid growths in aqueous solutions of salts of cocaine and other alkaloids. — L. i./85,224,315,504, 597,647.

No harm known to follow a 4 per cent. solution for eye purposes.—B.M.J. ii./86, 451.

Cocaine craving, 5 to 7 drachms per day of 4 per cent. solution caused a state of system allied to delirium tremens.—L. ii./85,732.

Facial neuralgia relieved by quarter of a grain of salicylate of cocaine.—L. ii./85,733.

Earache, a 2 per cent. solution of the hydrochlorate on wool is useful.—B.M.J. i./86,87.

Whooping-cough, spray with glycerine.—L.ii./89, 1098.

Thigh successfully amputated under the influence of Cocaine, 1 per cent. solution injected into the skin and a half per cent. solution into the deeper parts; only during the sawing of the bone did the man complain of pain.—L. i./86,561, *ex* Med. Jour. N.Y. Feb. 20th.

Angina pectoris, ½ grain three times a day.—L. ii./86, 459.

Morphine and nitrite of amyl are the best antidotes. —B.M.J. i./88,757.

Vomiting of pregnancy relieved by internal use.— L.ii./87,754, and for sore nipples, 1061; B.M.J. ii./87,94.

Camphor 5, chloral 5, cocaine hydrochlorate 1, warmed, form an oily liquid which cures toothache.—L. ii./86,324.

Slight pains, especially spasmodic, relieved by injection of a 20 per cent. solution into urethra.—L.i./88,871.

Painless tooth extraction if a 15 per cent. solution be injected into the gum.—B.M.J. ii./86,601.

In dentistry is of doubtful advantage, there is some danger, the gums do not absorb it.—L. ii./86,1190.

Cases of poisonous symptoms following injection into gums.—L. i./88,872; Pr. xli.288; B.M.J. ii./90,732.

Lithotrity rendered painless by the injection of 16 grains dissolved in 12 ounces of warm water into the bladder.—B.M.J. i./88,972.

Several cases of dangerous symptoms following its use in surgery.—L. i./87,780; St. Thomas' Hosp. Rep. vol. xv.

Thirty cases of danger narrated, chiefly following its hypodermic use.—Th. Gaz. Jan. 1888,16.

Cases of toxic action; from urethral injection of 12 grains,—Pr. xli.369; from vesical injection,—B.M.J. i./89,373; from rectal injection,—L. ii./89,656; from hypodermic injections,—B.M.J. i./89,382; L. ii./88, 715; i./89,274; from internal use, 20 grains accidentally swallowed,—L. i./89,292; 4 grains in child of 4 years,—Th. Gaz. Jan. 1889,26; other cases,—B.M.J. i./89,382; Th. Gaz. June 1888,373.

Résumé of poisoning cases; more than ¾ grain should not be injected at once. Opium and morphine useless as antidotes; chloroform or ether inhalation recommended to prevent respiratory tetanus.—B.M.J. i./89, 311. Toxic effects counteracted by ammonia.—L. i./88, 394; ii./88,715; ii./89,1126. Bandaging recommended to localise action.—L. ii./90,405,542; Pr. xlv. 376.

Erosis after hypodermic injection. — Pr. xliii,449; M.C. Aug. 1890,410.

Against indiscriminate use, and formation of cocaine habit.—B.M.J. i./89,973.*

Best antidote is amyl nitrite.—B.M.J. i./88,757.

Addition of Phenol to hypodermic solution, 1 part to 30, preserves solution, increases anæsthetic action, and diminishes risk of toxic symptoms following use.—B.M.J. ii./90,94.

Resorcin prevents cocaine poisoning; value of both drugs enhanced by combination.—B.M.J. ii./90,506.

In urethrotomy, use of cocaine may cause tearing away of mucous membrane, and is more often followed by hæmorrhage than is chloroform.—Th. Gaz. 1890,847.

Cocaine slightly retards union of wounds, and amount required for anæsthesia is uncertain.—Ed. M.J. 1890, 391.

A 2 per cent. solution recommended in preference to stronger, as it appears to be more quickly absorbed. An overdose usually causes quick pulse, rise of temperature, dilatation of pupil, anorexia, and insomnia. This last yields best to chloral, but requires large doses.—L. i./91,663.

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* Cases of danger from cocaine have generally occurred from its quick absorption in hypodermic use, especially in dental operations. Those who have applied it otherwise most freely recognise little danger. In our large experience of the drug, we have not met with a case in which the so-called "Cocaine habit" has been formed.

Serious symptoms from the entry of a few drops of cocaine solution into the tympanum.—B.M.J.E.ii./90,53.

Pleurisy relieved by local hypodermic injection of ⅛ to ¼ grain.—B.M.J. ii./88,76.

In diabetes, after codeine treatment, cocaine, ¼ grain doses given; overcame obstinate constipation, and ataxic gait disappeared.—L. ii./89,735.

Pruritus, several cases relieved by cocaine 2 per cent. in oil of theobroma.—B.M.J. ii./89,194.

Successful case of laparotomy under cocaine, 12 minims of $20^{\circ}/_{0}$ solution used.—B.M.J. ii./90,1022.

Amputation at wrist under cocaine, no shock. — B.M.J.E. i./91,202.

Useful in psoriasis of tongue; used before a meal averts pain from passage of food; in painful affections of stomach affords relief and averts vomiting, as that of pregnancy; in pruritus ani and itching skin diseases; and as a rectal injection, checks diarrhœa and straining of dysentery.—R.

The morning sickness following hypodermic injections of morphine is prevented by combining ⅓ grain cocaine with the morphine solution.—B.M.J. i./90,1867.

Cystitis from cantharides blistering, pain ceased instantly on introduction into prostatic urethra of 15 minims of 1 per cent. solution of cocaine hydrochlorate; recurred in 3½ hours, but yielded at once to 10 minims of the solution, and did not return.—L. ii./91,1351.

Recommended to give 1 drop Nitroglycerine Solution a minute before injection of cocaine, repeating at intervals if the pulse and temporal region be not affected.—B.M.J. ii./91,1204.

Decidedly useful in sea-sickness. Two ladies, usually ill, kept free by its use.—*Illustrated London News*, Aug. 27, 1891. Tablets useful before attempting to take food.—L. i./92,1295.

Recommendation of its use in surgery.—L. i./92,760.

CODEINA.

Codeine. *Dose.*—¼ to 2 grains.

An alkaloid from opium, generally in large prisms slightly brownish in colour. Soluble 1 in 80 to 100 of water, very soluble in diluted acids, in alcohol, and in excess of aqueous ammonia, but insoluble in excess of potash solution. It is a methylic ether of morphine,—monomethylmorphine,—and is now synthetically prepared from it by the action of chloride of methyl and alcoholic caustic soda solution. It has a slightly bitterish taste. In moderate doses is a hypnotic, and in small doses frequently it allays cough in phthisis. In diabetes it lessens the amount of sugar in the urine. For **hypodermic injection Phosphate of Codeine,** which contains 70 per cent. of alkaloid, and is soluble in 4 parts of water, is the most suitable salt (1 grain in 6 minims is used).

Hypodermic Lamels are also-prepared, containing ¼ grain Codeine combined with gelatine.

Codeine and Glycerine Jelly. *Dose.*—1 drachm. Codeine 72 grains, Citric Acid 720 grains, Refined Gelatine 6 ounces, Glycerine 36 ounces, Oil of Lemon 1 drachm, Balsam of Tolu and Distilled Water of each *q.s.* Boil the Tolu in water as ordered in B.P. for making syrup of tolu; of the liquor so prepared take 30 ounces; in 25 ounces of it soak the gelatine, heat till it is dissolved, and add the glycerine. In the remaining 5 ounces of liquor dissolve the Codeine and citric acid, add the solution to the above, add also the oil of lemon, stir well together, and pour into bottles to "set." Useful in chronic laryngitis, phthisical cough, &c. – B.M.J. i./84, 761. Also in ulcer of the stomach.

Pastillus Codeinæ, ⅛ grain in each.

Pilula Codeinæ Composita.

Codeine ¼ grain (increased to 2 grains if necessary), Extract of Nux-vomica ½ grain, Extract of Lettuce ¼ grain or more. To make one pill, to be taken two or three times a day, for diabetes. — *Pilula Codeinæ Composita, G.H.,* is Codeine ½ grain, Extract of Cascara Sagrada 2 grains, Extract of Lettuce 2½ grains.

Syrupus Codeinæ, B.P.C. *Dose.*—½ to 2 drachms. Codeine, in powder, 20 grains, Proof Spirit 1¼ ounces, Distilled Water 1¼ ounces; dissolve, and add Syrup *q.s.* to 1 pint.

Trochisci Codeinæ contain ⅛ grain in each.

Sleep produced by Codeine is not followed by the heaviness of that from morphine.—L. i./66,250.

Syrup useful in troublesome cough, especially phthisical.—B.M.J.i./79,546; Pr.xxiv.447; B.M.J.ii./88,1245.

In diabetes, doses of ¼ to ½ a grain three times a day at first, the dose being increased gradually until sugar disappeared from the urine, or increasing drowsiness demanded its discontinuance.—B.M.J. ii./81,474.

In diabetes considered to be of greater service than the other constituents of opium, as it does not produce the same narcotic effect as opium and morphine.—Guy's Hosp. Rep. xv.420; B.M.J. ii./88,1245.

Diabetes mellitus, 3 cases recorded with marked improvement. Codeine should be given at once, and in fairly large doses, until some physiological effect is produced. Even dieting appears to sink in significance by the side of Codeine.—B.M.J. i./82,933.

In bladder troubles, complicated with enlarged prostate, Codeine is a useful sedative when other opiates fail.—B.M.J. i./84,802.

Diabetes, results compared to those of morphine.—Pr. xli.16; xlii.374; B.M.J. i./89,118; Th. Gaz., 1888,618; Y.B.1890,307.

Ovarian pains relieved and cured by codeine in small doses.—Pr. xliv.63; M.C. May 1890,127; Th. Gaz. 1890,429.

Useful for cough in tuberculosis of lungs and larynx. Single large doses more efficacious than double quantity given in divided doses. Does not produce vomiting, nausea, or constipation. Especially useful in intolerance of morphine.—Th. Gaz. 1890,388.

Codeine is a narcotic analogous to morphine, less active and free from injurious after-effects. In painful affections of abdominal and pelvic organs relieved pain and induced sleep, but in gastric ulcer and cancer of stomach less successful. Especially of service in diseases of respiratory organs, phthisis, pneumonia, and asthma.—Pr. xli.49; xlv.137; Th. Gaz. 1890,457.

Apocodeinæ Hydrochloras.—See p. 64.

COLCHICINA.

Colchicine.—*Dose.*—$\frac{1}{32}$ to $\frac{1}{16}$ grain in a pill.

The active principle of the meadow saffron, *Colchicum autumnale.* A yellowish micro-crystalline powder, soluble in alcohol and chloroform, slightly so in water, insoluble in ether. It is a weak base, most of its salts being decomposed by water. It is the methyl ester of colchicëin, which crystallizes in white needles. Of use in acute gout, rheumatic gout, asthma, cerebral congestion, and uræmia.

In chronic rheumatism, apply hypodermic injections of $\frac{1}{32}$ grain in 15 minims of water.—M.T.G. i./77,463.

In neuralgic joint affections, and rheumatic ischiagra, $\frac{1}{32}$ gr. hypodermically injected succeeded.—Pr. xxiii.458.

Toxicological action—it affects the gastro-intestinal mucous membrane, causing severe pains in the bowels, of the nature of colic, vomiting, diarrhœa, intense thirst, and violent burning in the throat, œsophagus, and stomach.—B.M.J. ii./79,1024.

Preparation and chemical properties.—P.J. 1881,498.

Report on its action as a diuretic, and purgative in larger doses.—B.M.J. i./87,688 ; L. i./86,369.

COLLODIUM.

Collodion (*Off.*).—*Syn.* CONTRACTILE COLLODION.

Pyroxylin 1, Rectified Spirit 12, and Ether (Sp. Gr. 0·735) 36. Pure ether answers better.

Anodyne Colloid.—*Syn.* AMYL COLLOID.

Hydride of Amyl* 1 ounce, Aconitine 1 grain, Veratrine 6 grains, Collodion to 2 ounces.

For neuralgia, sciatica, lumbago, all muscular pains &c. The amyl by its rapid volatilization often produces almost instantaneously the desired result; but should the pain continue the alkaloids can be brought into activity by applying a piece of moist spongio-piline over the collodion film.—B.M.J. ii./72,677.

Camphoid.—See p. 96.

Celloidin. — Pyroxylin purified by solution in alcohol and ether; is used similarly to pyroxylin; it makes a clearer solution especially adapted for embedding microscopical specimens. **Photoxylin**, a nitro-cellulose prepared by nitrating wood wool, is soluble in a mixture of equal parts of alcohol and ether. A 3 to 5 per cent. solution is said to leave a very tough film. Used to form artificial tympana.

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* *Syn.*—**Pentyl Hydride ; Pentylene ; Hydramyl.** Obtained by the fractional distillation of petroleum spirit. It is the lightest liquid of the petroleum series ; Sp. Gr. 0·625 to 0·649, boiling point about 86° F. It is very inflammable ; can be inhaled without irritation, and will produce general anæsthesia ; locally, it is not absorbed, but rapidly freezes the part. An impure variety is known as **Rhigolene** in America. —L. i./85, 75,101 ; M.T.G. ii./71,373,493.

Collodium Belladonnæ.—See p. 79.

Collodium Cocainæ.—See p. 145.

Collodium cum Oleo Crotonis.

Croton oil 1 part mixed with 7 parts, more or less as required, of Flexible Collodion, forms a useful counter-irritant; a thin layer painted on quickly dries, and its action is limited to the spot to which it is applied.

Collodium Flexile (*Off.*).

Contractile Collodion 1 ounce, Canada Balsam 20 grains, Castor Oil 10 minims; makes a more elastic film than Contractile Collodion.

Collodium Ichthyol.—See p. 236.

Collodium Iodi.

30 grains of Iodine, more or less if required, to the ounce of Flexible Collodion, forms a coating which, on account of the iodine not being so readily volatilized as from an application of the liniment, sustains the action of the iodine and the film protects the part.

Collodium cum Iodoformo.—See Iodoform, p. 240.

Collodium Salicylicum.

Salicylic Acid	100 grains.
Flexible Collodion, ½ strength	1 ounce.

For use on exposed parts like the next preparation.

Collodium Callosum.

Salicylic Acid 60 grains, Extract of Indian Hemp 8 grains, Flexible Collodion, ½ strength, 1 ounce. Applied daily, this forms a rapid and painless solvent for corns and warts.—L.ii./83,951; B.M.J. ii./83,1071.

The following more active preparation is similarly used; both preparations have proved useful in epithelioma.

Collodium Salicylicum cum Zinci Chlorido.

Salicylic Acid 60 grains, Chloride of Zinc 30 grains, Collodion 1 ounce. Forms a clear solution. 1 of Chloride of Zinc forms an imperfect solution in 6 of Collodion (with some chemical change probably).

Perchloride of Mercury to the extent of 16 grains or more to the ounce of Salicylic Collodion may be used to warts of a specific nature.

Collodium Salicylicum et Lacticum.

Salicylic and Lactic Acids, of each 10, Collodion 80. Lactic Acid, being destructive to morbid growths, is said to increase the efficacy of this preparation.

Collodium Salol.—See p. 31.

Collodium Stypticum.—*Syn.* **Styptic Colloid.**

Tannic Acid 10, Rectified Spirit 10, Benzoin 1. Dissolve, strain, and add Ether (Sp. Gr. 0·720) 40, Gun Cotton 2. Mix, set aside two or three days, and decant. Forms a useful application in checking various forms of hæmorrhage when it can be brought in contact with the bleeding surface.

Carbolic Colloid.

Carbolic Acid 20 grains, Styptic Colloid 1 ounce. Readily soluble in anhydrous ether; solution on wool gives sufficient anæsthesia for many small operations. Gives relief in toothache.—Asclepiad, 1890, iv.335.

Collodium Vesicans and **Collodium Epispasticum Fortius.**—See p. 100.

CONDURANGO, P.G. III.

Dose.—In powder, 15 to 60 grains.

The bark of *Gonolobus Condurango*, from Peru. Is bitter and acrid. Used as an alterative, and was a supposed specific for cancer, syphilis, and latterly for dyspepsia. Note on physiological action.—L. i./84,812; ii./86,31. Contains a glucoside Condurangin, a nerve poison.

Extractum Condurango Liquidum. 1=1 of bark. *Dose.*—10 to 60 minims.

Infusum Condurango. 1 in 20.

Dose.—½ to 2 ounces.

Vinum Condurango, P.G. III. 1 in 10.

Dose.—½ to 1 ounce. A valuable stomachic.

The wine useful in 132 cases of ulceration of stomach with bloody stools.—Th. Gaz. 1884,288. Condurango slightly helps gastric digestion, but is quite unable to produce any lasting change in the stomach secretion.—B.M.J.E. i./92,36.

CONINA.

Conine.—*Syn.* CICUTINE; CONICINE.

Dose.—¼ grain, increased gradually to 2 grains.

A liquid alkaloidal principle, almost colourless, and having a penetrating empyreumatic odour, obtained from hemlock, *Conium maculatum*. It is slightly soluble in water. Has been prepared synthetically from *a*-Picoline. Commercial Conine has in combination two other principles, Conhydrine and Methyl Conine, which the following salt is free from.

Coninæ Hydrobrómas.

Dose.—⅓ grain, increased gradually to 2 grains.

In colourless crystalline prisms, resembling sulphate of magnesium in appearance. Soluble 1 in 8 of water.

Injectio Coninæ Hydrobromatis Hypodermica. 1 grain in 20 minims.

Dose.—1 to 3 minims.

Pessus Coninæ (Hosp. for Women).

Conine ½ minim, Gelatine Mass 20 grains.

Pilula Coninæ Hydrobromatis.

Hydrobromate of Conine ⅓ grain in each.

Vapor Coninæ (*Off.*).

Juice of Hemlock ½ ounce, Solution of Potash 1 drachm, Distilled Water 1 ounce. Put 20 minims on the sponge of a suitable apparatus to inhale.

Conine is most suitable in acute mania without organic brain disease, ⅓ minim of Conine given hypodermically is equal to one drachm Succus Conii.—Rank. ii./72,119, *ex* West Riding Lunatic Asylum Med. Rep. vol. ii.

Hydrobromate of Conine is useful in neuroses and spasmodic affections of chronic bronchitis.—Pr.xxiii. 202,212. Traumatic tetanus cured.—Th. Gaz. 1888,330.

In epilepsy, dose of ¼ to 1½ grains recommended.—L. ii./84,32; Pr. xxxii.431.

Physiological action of the colourless Hydrobromate is like that of curare, but it does not act at all on the central nervous system like commercial liquid Conine; the latter contains two alkaloids.—L. ii./80,778.

Large doses, 2 to 4 drachms, of Succus Conii useful in chorea.—L. i./83,905.

Hydrobromate of Conine acts chiefly as a direct sedative to the respiratory centre; in poisonous doses death is caused by asphyxia. It is employed with advantage in all spasmodic affections, especially those of the respiratory organs; and in neuralgia commence with 1⅓ grains but not exceed 4⅓ grains per 24 hours.—Pr. xxviii.136.

Unguentum Conii, Ointment of Hemlock (*Off.*).

Hemlock Juice 2 ounces, evaporated under 140° F. to 2 drachms, Boric Acid 10 grains, Hydrous Wool Fat ¾ ounce.

Gives relief in pruritus ani. For painful fissures, 10 or 12 grains persulphate of iron may be added.—Pr.xl.250; Th. Gaz., 1888, 395.

CONVALLARIA MAJALIS.

Lily of the Valley.

The flowers, as well as the whole plant of this, form an old remedy for dropsy in Russia. In functional and organic disease of the heart, an infusion of 10 grains in 6 ounces of water, of which half an ounce twice a day for two or three days lessens the irritability and peevishness. The effect will continue for from 5 to 9 days without producing dyspnœa or palpitation. Under this treatment the patient can take bodily exercise without discomfort.—Edin. Med. Jour. xxvii.645; P.J. 1883,1058.

Two glucosides have been obtained from the plant: convallarin, convallamarin, and a principle found in the flowers only.

Convallarin, a pale brownish white powder, soluble in alcohol, but insoluble in water; in dose of 3 or 4 grains, only has a purgative effect.

Convallamarin. *Dose.*—½ to 2 grains.

A pale, whitish brown amorphous powder, soluble in water and alcohol; is said to contain the active properties of the drug. It acts principally on the heart. Physiologically its action approaches that of digitalin, helleborin, &c. Death is produced by stoppage of the heart, and nearly always accompanied by intense clonic convulsions.—P.J. 1882,423.

Convallamarin is the more active preparation; only one dose should be given daily, on account of its cumulative action; it probably acts directly on the muscular tissues of the heart, more slowly than digitalis, but is more persistent in its influence; is contra-indicated in advanced heart disease where the muscular structure is altered.—L. ii./84,418.

Useful in cardiac dilatation.—B.M.J.E. ii./91,142.

Extractum Convallariæ. *Dose.*—2 to 8 grains.

An aqueous extract of flowers and stems, with one-third of roots and leaves, is said to be most active.—P.J. 1883, 143.

Extractum Convallariæ Fluidum.

Dose.—2 to 10 minims; 1 = 1 of flowers.

Tinctura Convallariæ, B.P.C.

Dose.—5 to 20 minims; 1 of flowers in 8 of proof spirit.

Convallaria is a powerful diuretic, irregularity of heart's action is lessened, used in mitral and aortic regurgitation, dilatation of the heart, senile hypertrophy, chronic pericarditis, anæmia, and diabetes.—L. ii./82,327.

In all forms of heart failure it is useful, and has none of the nauseating effects of digitalis. It promotes a stronger ventricular contraction, and does not exhaust the contractility of the heart and arteries.—L. i./83, 185.

Editorial Notes on.—It exerts no deleterious effects, takes the place of digitalis in organic heart disease, relieves promptly without danger of overdose or cumulative action.—B.M.J. i./83,568.

Action of convallaria not identical with that of digitalis; a small dose should be commenced with. —L. ii./83,24.

Convallaria of great service where there is actual valvular lesion, with insufficiency and dilatation of the right side of the heart, venous engorgement, and œdema. Should not be used where opposite conditions exist.—Pr. xxxii.265; B.M.J.E. ii./91,142; Th.Gaz. 1891,839.

COTO CORTEX.

Coto Bark.

Dose, in powder, 1 to 8 grains 4 to 6 times a day.

Coto Bark, imported from Bolivia, has been used for diarrhœa, gout, and rheumatism. It is rich in resinous principles, which give it a pungent taste.

Extractum Coto Liquidum.

One ounce = one of bark.—*Dose.*—2 to 6 minims.

Tinctura Coto, B.P.C.

Coto Bark, bruised, 1 ounce, Rectified Spirit *q.s.* Macerate 7 days, press, filter, and add rectified spirit *q.s.* to produce 10 ounces.

Dose.—10 minims, with mucilage and syrup to suspend, every 2 hours, in diarrhœa.—P.J. 1875,301.

In diarrhœa of phthisis, 5 to 8 minims of fluid extract of Coto found useful. Must not be combined with mistura cretæ.—Pr. xxiii.257.

Checks night sweats in incipient phthisis.—L. ii./81, 318; B.M.J.ii./81,727.

Cotoin. Obtained from Coto Bark.

Dose.—½ to 2 grains every 2 or 3 hours, in a pill or diluted mucilage or syrup, for stomachic catarrh and chronic and phthisical diarrhœa, causes a reduction of the febrile symptoms and night sweats.

Cotoin is a pale yellow amorphous powder, or in minute curved crystalline prisms, non-volatile, slightly soluble in water, soluble in alcohol, ether, and chloroform, caustic and carbonated alkalies. It has a bitter taste, and the dust is irritating to the nostrils.

For **hypodermic injection** a solution 1 in 4 of acetic ether is recommended as having a specific action on the bowels in cholera, 15-minim doses to be given every quarter of an hour to every hour.—P.J. 1883,62.

No drug equal to Cotoin in the treatment of diarrhœa of all kinds, especially that of phthisis; it checks salivation and night sweats.—M.R. 1883,16.

Paracotoin. Obtained from Paracoto Bark, a bark allied to Coto Bark.

Dose.—1½ to 3 grains every 2 or 3 hours in chronic and acute stomachic catarrh and Asiatic cholera.

Paracotoin is in minute laminar crystals, paler than cotoin. Soluble in ether, chloroform, boiling alcohol, and somewhat in boiling water, but from this it separates on cooling. It appears to be a weaker Cotoin.

COUMARINUM.

Coumarin.

A neutral crystalline principle in colourless rectangular plates, may be obtained from Tonka or Tonquin beans, the fruit of *Coumaruna odorata*, is also found in the woodruff *Asperula odorata*, *Melilotus officinalis*, *Anthoxanthum odoratum*, &c., but it is now manufactured synthetically from Salicylol, or Salicylic Aldehyde. It is almost insoluble in cold water, but readily soluble in hot, dilute acids, and alcohol, has an agreeable aromatic odour, a burning taste, sublimes unchanged, and the vapour acts very strongly on the brain. 1 part to 50 of iodoform has been employed to disguise the odour of the latter.—See Iodoform, p. 240.

CREASOTUM (*Off.*).

Creasote.—*Syn.* KREOSOTE, CREOSOTE.

Dose.—1 to 3 minims.

Obtained from wood tar, soluble in alcohol, ether, glacial acetic acid, fats and oils, insoluble in glycerine, sparingly soluble in water—about 1 in 1,000. Two kinds of genuine Creasote are met with in commerce—Hydrated Creasote, which keeps stable and almost colourless, but makes a cloudy mixture with oil of turpentine, and—Anhydrous Creasote, which, although liable to turn brown, mixes perfectly with oil of turpentine. That obtained from pinewood is less soluble and contains no guaiacol, which forms a large percentage of beechwood Creasote. As Creasote coagulates albumen in solution, it acts locally as a caustic. It is one of the most powerful deodorisers, antiputrescents, and - antiseptics. It is used to correct fœtor, given to check sickness, added to cod-liver oil for phthisis, and externally in various skin diseases.

For irritable trachea and congested larynx, causing troublesome cough, the dry inhalation of creasote from an oro-nasal or " ozonic " inhaler is very useful.

Mistura Creasoti (*Off.*). *Dose.*—1 to 2 ounces.

Contains 1 minim in an ounce; it is not a satisfactory preparation, as the Creasote does not dissolve perfectly.

Perles of Creasote. 1 or 2 minims in each, with oil.

Pilula Creasoti (Martindale). *Dose.*—2 to 6 grains.

Creasote	2 drachms.
Curd Soap, in powder ...	120 grains.

Put the Creasote in a 1-ounce wide mouth stoppered bottle, add the soap, and mix well. Then digest in a water bath till they combine. Each 2 grains of the mass will contain, as nearly as possible, 1 minim of Creasote.—P.J. 1878,681.

The writer has found this mass the most convenient for giving Creasote in pills. It combines with other ingredients without decomposition. Calcined magnesia and slaked lime, sometimes recommended as excipients, form compounds with Creasote perfectly insoluble and indigestible. Care should be taken not to mix oxide of silver directly with pure Creasote, else deflagration will occur; but it may be mixed with the above mass, although it is not advisable to prescribe the two drugs together.

Pulvis Creasoti et Amyli.

Creasote 10 minims, Starch 1 ounce. Mix well. It is used as a dusting powder in erysipelas.

Unguentum Creasoti (*Off.*).

Creasote 1 drachm, with 1 ounce of simple ointment.

Unguentum Creasoti Forte, B.S.H.

Creasote 6 drachms, Yellow Wax 180 grains.

Melt, and stir till cold. Used in psoriasis. Caution.—Should not be applied to the belly, face, or flexor surfaces of the limbs.

Vapor Creasoti, T.H.

Creasote 80 minims, Light Carbonate of Magnesium 30 grains, Water to 1 ounce.

A teaspoonful in a pint of water at 140° F. Useful in chronic congestion of the larynx and trachea, and in ozæna, fœtor of breath in bronchitis, gangrenous lung, and syphilitic throats.—B.M.J. ii./88,700.

Creasote lessens cough and expectoration in phthisis. 1 in 40 of rectified spirit, of this a teaspoonful twice a day; also in 1 or 2 minim doses in solution in cod liver oil or in troches with balsam of tolu.—Pr. xxii.380; Pr. xxvi.296; L. i./88,187; B.M.J. i./88,548; B.M.J.E. ii./91,166.

Saturation of system with creasote in tuberculosis recommended as result of 5,000 cases.—L. ii./89,336.

Unsurpassed in many cases as a curative agent in tuberculosis of the lung. Treatment must be continuous and extensive. Best results follow from greatest amount borne by patient. Best given in cod-liver oil. Intrapulmonary and inter-tracheal injections questionable, if not injurious.—L. ii./90,455; M.C. 1890, Sept. 493; 1891, Dec. 183; Pr. xlv.294; xlvi.454; xlviii.62; B.M.J.E. ii./91,166; Th. Gaz. 1890, 632.

Phthisis successfully treated by respiration of air saturated with creasote and eucalyptol under pressure.—L. i./91,963,1166; B.M.J. ii./91, 103; B.M.J.E. i./91, 142; Ed. M.J. 1891,268.

Useful in pills for diabetes.—L. i./89,702.

Of service in flatulent dyspepsia, ½ minim with sodium bicarbonate after meals. If due to gastric atony, bismuth carbonate and pepsin, of each 2 grains, may be added.—Th. Gaz. July, 1889,504.

Oro-nasal Inhalations.—Creasote, or a mixture of equal parts of Creasote and Carbolic Acid, is employed to medicate respirators.

Used for antiseptic inhalation for phthisis dropped on respirator.—L. ii./77,598.

Creasote 3 parts with carbolic acid one part dropped on the cotton wool of the naso-oral respirator recommended for continuous local medication in phthisis. —L. ii./80,870; Pr. xxix.94; B.M.J. ii./81,813.

Creasote used to medicate the respirator. It is more sedative in its action if mixed with an equal volume of spirit of chloroform, 5 to 15 or 20 minims dropped on the cotton wool at one time.—B.M.J. ii./82,7.

Guaiacol. *Dose.*—½ to 2 minims. May be obtained by the destructive distillation of guaiacum resin, and is contained in beech creasote to the extent of 60 to 90 per cent. It is a methyl ether of pyrocatechin, and, when pure, is a colourless refractive liquid of Sp. Gr. 1·1171, boiling at 200° C. It is soluble in alcohol, ether, fats, oils, and glycerine, but only slightly soluble in water. Its taste and odour resemble, but are more agreeable than, those of creasote. Its alcoholic solution gives an emerald green coloration with perchloride of iron. It is useful in phthisis, particularly in incipient stages, and rarely disagrees. It may be given thus: Guaiacol 1 part, Water 180 parts, Rectified Spirit 20 parts. *Dose.*—1 to 4 drachms in water twice or thrice daily, after meals. It may also be given in cod liver oil, which disguises the taste, or the following:—Guaiacol 13·5, Tincture of Gentian 30, Rectified Spirit 250, and Sherry to 1,000; two teaspoonfuls two or three times a day in water.

Perles of Guaiacol contain one minim, dissolved in oil.

Injections of Guaiacol 5 per cent., and iodoform 1 per cent., in sterilized olive oil,* recommended in tuberculosis; said to lessen cough and expectoration, diminish number of bacilli in sputum, favour cicatrization of cavities, and lessen fever and night-sweats. *Dose.*—One, increased to three syringefuls (1 c.c. each).—

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* Sterilized olive or almond oil, or liquid paraffin, intended for hypodermic injection, is prepared by heating it in a Pasteur's flask to 120° — 140° C. for 2 hours in a sterilizing oven. It should be transferred into small bottles with bacteriological precautions

B.M.J.E. i./91,85; ii./91,79,95; B.M.J. ii./91,1040; M.C. 1892, Jan. 249, April, 39; Th. Gaz. 1891,344, 572; 1892,43.

Guaiacol Carbonate. *Dose.*—3 to 8 grains, gradually increased to 90 grains daily.

A white minutely crystalline substance, tasteless, and with slight odour, soluble in alcohol, insoluble in water. Given in phthisis, improved appetite, increased weight, and lessened cough, expectoration, and night-sweats. Is unirritating to mucous membrane and digestive organs.—B.M.J.E. i./92,8; P.J. 1892,812.

Benzosol. The benzoyl-ester of guaiacol.

Dose.—4 to 12 grains in cachet.

In small colourless crystals, almost tasteless and odourless, soluble in chloroform, ether, and hot alcohol, nearly insoluble in water. Is slowly saponified by the gastric juice, so that the guaiacol is liberated gradually, avoiding unpleasant taste and minimising irritation.—P.J. 1890,81; 1891, 81; Th. Gaz. 1891,699; 1892, 115. Useful in incipient phthisis, an agreeable and harmless substitute for creasote.—L. i./92,32; B.M.J. ii./91,1318.

CUBEBA.

Cubebs (*Off.*). *Dose.*—30 to 120 grains in cachets.

The dried unripe full-grown fruit of *Piper Cubeba.* The genuine—imported from Java—give a crimson colour with strong sulphuric acid, and are free from mace-like taste and odour.—P.J. 1892,771.

Cigarettes of the powder are useful for catarrh and excessive bronchial secretion. It is sometimes added to Ferrier's Snuff (p. 84), and is an ingredient of the American specialty, Brown's Troches. Cubebs contain, besides **Oleum Cubebæ** (*dose*, 5 to 20 minims), **Cubebin**, in small white needles, and **Cubebic Acid**, a non-crystalline resin, occurring in white powder, which has been recommended for gonorrhœa, in doses up to 15 grains. These are all contained in

Oleo-resina Cubebæ (*Off.*). *Dose.*—5 to 30 minims.

Tinctura Cubebæ (*Off.*). *Dose.*—½ to 2 drachms. Recommended as an expectorant, taken in linseed tea.—L. i./90,569.

Trochisci Cubebæ.—T.H. Contain 3 grains each, with fruit paste. *Dose.*—1 every 3 or 4 hours.

CUCUMIS.

Cucumber.—The juice of the fruit of *Cucumis sativus*, is in French Codex to prepare:—

Unguentum Cucumeris.—*Syn.* POMATUM CUM SUCCO CUCUMERIS SATIVI; Fr. POMMADE AUX CONCOMBRES.

Cucumber Juice 1200, Lard 1000, Veal Suet 600, Balsam of Tolu in S.V.R. *q.s.*, 2, Rose Water 10. F.s.a. Is a cooling ointment, used like cold cream.

CURARA.

Curare.—*Syn.* OURARI, URARI, WOURARA, WOURALI. *Dose.*—$\frac{1}{20}$ to ½ grain.

The South American Indian arrow-poison, produced from species of *Strychnos* and other plants. A blackish-brown coloured, dry extract, with a bitter taste; contains some resin, but is nearly all soluble in water.

Curarina, Curarine. *Dose.*—$\frac{1}{400}$ to $\frac{1}{40}$ grain (?).

This, the active principle of Curare, is a most powerful poison, in yellowish-brown amorphous hygroscopic powder, with an intensely bitter taste, soluble in water and alcohol, the latter solution being slightly fluorescent. Is not alkaline in reaction, and forms no true salts. In toxicological research, Curarine, like strychnine, with sulphuric acid and bichromate of potassium, is coloured first blue, then violet, and later on cherry-red, but the transition is slower than with strychnine; sulphuric acid alone imparts a red colour to solutions containing Curarine, it has no effect on strychnine. The physiological test for Curarine is more valuable.—B.M.J. ii./79,1025.

It is said to exercise no marked physiological action if swallowed (?), but acts as a muscular paralyser if injected subcutaneously.

Pharmacological research on.—P.J. 1890,893,471; L. i./91,46.

Injectio Curare Hypodermica, B.P.C.
Dose.—1 to 6 minims.

Curare, in powder, 5 grains, Distilled Water, a sufficient quantity. Add to the Curare distilled water *q.s.* to form a thin paste, transfer to a funnel plugged with absorbent wool, and gradually add more water until one drachm is obtained.

If required in haste, to the five grains of Curare reduced to powder add one drachm of distilled water, throw on a filter, and when the liquor ceases to drop pour over the contents of the filter distilled water sufficient to produce one drachm.

Hypodermic Lamels are also prepared, containing $\frac{1}{400}$ grain Curarine in each combined with Gelatine; also with $\frac{1}{20}$ grain of Curare.

Used to paralyse muscular movements in experiments on biliary secretions of dog, in dose of from 0·02 to 0·06 gramme of Curare.—Pr. xxiii.327.

In hydrophobia, a case cured by $\frac{1}{3}$ to $\frac{1}{2}$ grain, hypodermically, repeated about every half-hour, as required, to allay the spasms, until these ceased entirely, and paralysis of all voluntary movements became apparent.—M.T.G. ii./77,396.

Its botanical sources and varieties.—P.J. 1880-81,491, 529,589,693,754.

Its use as a palliative in hydrophobia.—L. ii./81,624.

Cases of tetanus treated by hypodermic injections of Curare. To adults, 4 grains may be exhibited at intervals in the 24 hours, without danger to life.—Dub. Jour. Med. Sci. 1882,307.

CYPRIPEDIN.

Dose.—1 to 3 grains, in a pill with glycerine of tragacanth.

The dried extract of the root of *Cypripedium pubescens*, Ladies' Slipper. It has a snuff-brown colour, and is given in nervous affections, hysteria, hypochondriasis, and is said to be useful in epilepsy.

DAMIANA.

The leaves of some species of *Turnera* are imported, and are recommended in the United States as possessing aphrodisiac properties.

Extractum Damianæ Liquidum is prepared, of which two drachms represent a drachm of the leaves. *Dose.*—1 to 2 drachms.

Extractum Damianæ. *Dose.*—2 to 10 grains.

Is prepared by concentration of the above.

Pilula Damianæ Composita.

Extract of Damiana 2 grains, Phosphorus $\frac{1}{100}$ grain, Extract of Nux Vomica $\frac{1}{8}$ grain. *Dose.*—One, two or three times a day.

Damiana is a nerve tonic of great value in sexual debility; useful also in hemiplegia and paraplegia.—Pr. xxiv.58.

Botanical source and history.—P.J. 1875,423,493,581.

For cases of melancholia this drug is found to be of service.—L. ii./87,604.

DATURINA.

Daturine.

Dose.—$\frac{1}{120}$ to $\frac{1}{60}$ grain increased to $\frac{1}{16}$ or more, in solution with diluted sulphuric acid.

The alkaloid obtained from *Datura Stramonium*. In crystals resembling atropine, but lighter and more feathery in appearance. That generally met with is the "light Daturine" of Ladenburg, and, according to him, it consists principally of pure hyoscyamine.—See Atropine, p. 70. It has allied chemical and physiological properties to atropine and hyoscyamine, and is used for ophthalmic purposes to dilate the pupil, &c. The salt **Daturinæ Sulphas** is generally employed. It is in minute, white, granular crystals, readily soluble in water.

Guttæ Daturinæ, R.O.H.

Sulphate of Daturine 2 grains, Distilled Water 1 ounce.

Ophthalmic Discs contain $\frac{1}{5000}$ grain of Sulphate of Daturine in each, combined with Gelatine.

In acute mania it acted like hyoscyamine and atropine in producing sleep.—R. Pr. xviii.166.

DELPHINA.

Syn. DELPHIA, DELPHINE.

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ grain in a pill, with glycerine of tragacanth, every 3 or 4 hours.

A white or brownish white amorphous alkaloid obtained from seeds of stavesacre, *Delphinium Staphisagria*, and of larkspur, *Delphinium Consolida*. Almost insoluble in water, soluble in alcohol, ether, and dilute acids. It is a heart poison.

Has been given internally in doses as above, in dropsy and spasmodic asthma. Locally 10 to 30 grains to an ounce of rectified spirit, or an ointment containing the same quantity causes tingling and transient redness like veratrine; useful in neuralgia, earache, and toothache.

Oleum Staphisagriæ, expressed from the seeds.

One to 6 or 12 parts of perfumed olive or almond oil effectually kills pediculi of all kinds. Remove nits with a mixture of vinegar and proof spirit.—M.P.C. ii./85,551.

Unguentum Staphisagriæ (*Off.*). — Stavesacre Seeds 1, digested in Benzoated Lard 2, in a water bath for 2 hours, and strained through calico.

DIGITALINUM.

Digitalin.—*Syn.* DIGITALINE AMORPHE (Codex).

Dose.—$\frac{1}{30}$ to $\frac{1}{15}$ grain in a pill.

The Digitalin of Homolle is met with in commerce as an amorphous yellowish-white powder or small scales, inodorous but irritating to the nostrils, is intensely bitter and poisonous, and possesses the well-known properties of the foxglove, *Digitalis purpurea*, from which it is obtained. It consists of a mixture of Schmiedeberg's digitalin with some digitoxin. Is used to lessen fever and acute inflammations, also in heart disease with rapid weak pulse, and for cardiac dropsy, for internal hæmorrhages, delirium tremens, and spermatorrhœa.

Granules de Digitaline (Homolle).

Dose.—2 to 4 or 5 in 24 hours.

Are much used in France. Each granule contains a milligramme ($\frac{1}{65}$ grain) of Digitalin, equal to about 1½ grains Digitalis leaves.

Crystallized Digitaline (Nativelle's), *Digitaline cristallisée* (Codex). *Dose.*—$\frac{1}{250}$ to $\frac{1}{60}$ grain in a pill.

Is in light, white crystalline tufts of needles, very bitter; insoluble in water and ether, soluble in chloroform and rectified spirit. It consists almost entirely of Schmiedeberg's digitoxin, and is cumulative in its action. Should not be dispensed unless *crystals* are ordered.

Digitalein (Schmiedeberg), an amorphous glucoside, soluble in water, possesses active properties like the above, and is suitable for making hypodermic injections; given in the same dose as Digitalin, and said to be non-cumulative. **Hypodermic Lamels** of this are prepared containing $\frac{1}{100}$ grain in each combined with gelatine.

Digitalin (Schmiedeberg), **Digitalin Verum** (Kiliani), a glucoside, possessing the medical virtues of digitalis, soluble 1 in 1,000 of water. *Dose.*—$\frac{1}{250}$ grain every 2 or 3 hours.—P.J. 1892,1061.

Digitoxin (Schmiedeberg).—This is the most poisonous of the digitalis principles, and is cumulative. It crystallizes from alcohol, is insoluble in water, and sparingly soluble in ether.

Digitonin.—Another glucoside, is, according to Houdas' investigations, a form of digitalein, or Nativelle's digital*éine*.—Comptes Rendus,113,648; P.J. 1892,609,694; Chem. Soc. Jour. 1892, p. 222.

References to Digitalins.

Physiological and therapeutical experiments.—M.T.G. i./55,382; L. ii./81,886.

Is 120 times as strong as Digitalis, given in delirium tremens in doses of $\frac{1}{60}$ to $\frac{1}{30}$ grain.—M.T.G. ii./61,106.

Case of poisoning by, with recovery.—L. i./80,166.

Use in heart disease.—B.M.J. ii./71,148.

Antagonism to aconitine.—B.M.J. Rep. 1877,89.

Hypodermic injection of 1 in 500 of equal parts alcohol and water, in dose of 8 minims, acts well.—B.M.J. i./78,585.

Is an irritant to the skin, mucous membranes, hypodermically, and even to the stomach; produces diuresis only in dropsies due to disorders of circulation. Small doses slow the pulse and increase cardiac energy.—L. ii./84,25.

Diuretin.—See p. 394.

DUBOISINÆ SULPHAS.

Sulphate of Duboisine. *Dose.*—$\frac{1}{120}$ to $\frac{1}{30}$ grain.

Obtained from Pituri, the leaves of *Duboisia myoporoides*; is usually met with in amorphous whitish granules, very hygroscopic. Although first stated by Ladenburg (Berichte xiii.257) to consist of hyoscyamine, a sample of commercial Duboisine last examined by him (Ber. xx. 1661), was found to be identical with hyoscine* (see pp. 69, 231) and isomeric with atropine and hyoscyamine. It is much more powerful physiologically than the latter.

Guttæ Duboisinæ Sulphatis, R.O.H.

Sulphate of Duboisine [illegible] grain to Distilled Water 1 oz.

Ophthalmic Discs are prepared containing $\frac{1}{5000}$ grain of Sulphate of Duboisine combined with Gelatine.

Physiological action. It dilates the pupil, dries the mouth, checks perspiration, causes headache and drowsiness, antagonises muscarine, on the eye it acts more promptly than atropine.—L. i./78,304.

Eight cases of toxic symptoms, giddiness, delirium, and dryness of the mouth from use of eyedrops 4 grains to the ounce.—L. ii./79,353.

As a mydriatic is much stronger than atropine. Its use requires care—it is apt to produce giddiness, &c., and even delirium.—L. ii./79,441; i./87,75.

Physiological properties and medicinal use as a mydriatic; a résumé.—B.M.J. ii./79,362; Pr. xxiii.246.

Therapeutic and physiological effects.—Differs from atropine by the persistence and greater rapidity of its action on the muscle of accommodation; is a useful calmative in maniacal delirium; as a sedative ointment, 1 in 500 of vaseline applied night and morning is useful in inflammation of the cornea.—Pr. xxv.294.

Résumé of its physiological properties.—L. ii./81,806; B.M.J. ii./81,529; Trans. Med. Congress, 1881,i.511.

In exophthalmic goitre, $\frac{1}{120}$ grain 2 or 3 times a day gives great relief.—B.M.J.i./83,958.

Produced sleep in 20 minutes, in dose of $\frac{1}{85}$ to $\frac{1}{20}$ grain hypodermically.—L. ii./91,831; M.C. Feb. 1892,321.

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* Some manufacturers now say the former is correct and that duboisine, obtained as a brown thick liquid, forms a sulphate corresponding in all respects to hyoscyamine sulphate. They obtain hyoscine from the mother-liquor, not only of duboisine sulphate, but also of hyoscyamine sulphate, which they prepare from belladonna root.—P.J. 1890,709; C. & D. i./90,262. According to Schmidt, the leaves yield at times principally hyoscyamine, at others almost entirely hyoscine, or, rather scopolamine.—P.J. 1892, 1024,—See pp. 69, 231.

ELÆOSACCHARA. P.G. III.

This term is applied to triturations of volatile oils with sugar. They are made of the strength of 1 part by weight of the oil to 50 of sugar, or approximately 2 drops to 60 grains, and should be prepared as required. Those mostly in use are those of **anise, cinnamon, citron, and peppermint.** They are used to disguise the flavour of nauseous powders, that of cinnamon as a corrective with bismuth particularly.

ELATERIUM.

Elaterium (*Off.*).

Dose.—$\frac{1}{16}$ to $\frac{1}{2}$ grain.

Is a powerful hydragogue cathartic, useful in renal or cardiac disease complicated with dropsy.

Tinctura Elaterii Composita.

Elaterium in powder 1 grain, Compound Tincture of Chloroform 1 ounce.

Dose.—10 to 30 minims.

It is preferable to add the chloroform (which is a ready solvent of Elaterin) of the tincture first, macerate 2 days, then add the rectified spirit and compound tincture of cardamoms, macerate 5 days more and filter. Is more active than a corresponding dose of the powder.

Elaterinum, Elaterin (*Off.*).—*Syn.* MOMORDICIN.

Dose.—$\frac{1}{40}$ to $\frac{1}{10}$ grain.

The neutral active principle of Elaterium, is in colourless, hard, acicular crystals, insoluble in water, soluble in chloroform and hot alcohol.

Pulvis Elaterini Compositus (*Off.*).

Dose.—$\frac{1}{2}$ to 5 grains. Elaterin 1, Sugar of Milk 39.

ELIXIRS.

These are generally composed of a weak-flavoured syrup, with a fair proportion of alcohol, which latter may account for much of the esteem in which they are held.

Elixir Aurantii, U.S.P., Simple Elixir, U.S.P.

Oil of Sweet Orange 1, Absorbent Wool 2; pour the oil on the wool gradually, distributing it thoroughly by picking it apart, and percolate slowly with a mixture of Alcohol 1, Water 3, until 200 parts are obtained. In this dissolve Sugar 100 (*all by weight*).

Dose.—$\frac{1}{2}$ to 2 drachms.

Elixir Simplex, B.P.C.

Oil of Bitter Orange 30 minims, Rectified Spirit 6 ounces. Dissolve and add, Distilled Cinnamon Water 7 ounces, Syrup 7 ounces. Filter through paper moistened with proof spirit, and well sprinkled with kaolin, returning the first portions of filtrate until it passes through bright.

Dose.—20 minims to 1 drachm. This quantity may be added to the ounce of any liquid medicine.

Elixir Bismuthi.

Citrate of Bismuth 160 grains, Distilled Water 2 ounces, Solution of Ammonia 2 drachms, or more if needed to dissolve the bismuth. Dissolve, filter, and add Simple Elixir to 10 ounces. *Dose.*—1 drachm = 2 grains citrate of bismuth.

Elixir Camphoræ.—See p. 95.

Elixir Camphoræ Monobromatæ.—See p. 97.

Elixir Cascara Sagrada.—See p. 357.

Elixir Cinchonæ. *Dose.*—½ to 1 drachm.

Liquid Extract of Cinchona 1 ounce, Simple Elixir 7 ounces. Mix and filter.

Elixir Ferri, Quininæ et Strychninæ Phosphatum.—See p. 203.

Elixir Guaranæ.—See Guarana, p. 215.

Elixir Papain.—See p. 305.

Elixir Paraldehydi.—See p. 50.

Elixir Phosphori.—See Phosphorus, p. 316.

Elixir Rhei, B.P.C. *Dose.*—1 to 3 drachms.

Rhubarb in No. 12 powder 5, Fennel (bruised) 2, Glycerine 3, Sugar 4, Diluted Spirit (1 S.V.R. to 3 Aq.) *q.s.* to 20.

Moisten the rhubarb and fennel with diluted spirit 15, macerate 48 hours and press. Break up the mass and add more menstruum *q.s.* to produce, after macerating 24 hours and pressing, 15, with the former liquor. After again standing 2 days filter into the glycerine and sugar and dissolve without heat.

Elixir Rubrum. *Dose.*—20 minims to 1 drachm.

Solution of Carmine (p. 104) 1 drachm, Simple Elixir to 8 ounces. Gives an agreeable flavour and colour to liquid medicines, but is not compatible with acids.

Elixir Sacoharini.—See p. 360.

Elixir Sennæ, B.P.C. *Dose.*—1 to 3 drachms.

Moisten Alexandrian senna 16 ounces, with 4 ounces of rectified spirit mixed with 12 ounces of water, pack tightly in a closed vessel, macerate for 3 days, and press. Repeat with sufficient of the same menstruum to give, in all, 16 ounces of liquor. Add this to sugar 12 ounces, and heat in a closed vessel to 200° F. After ten minutes, cool, strain, and add, previously mixed, Chloroform 24 minims, Oil of Coriander 2½ minims, Tincture of Capsicum ½ drachm, Rectified Spirit 3 drachms, adding proof spirit, if necessary, *q.s.* to 24 ounces.

In this preparation the **Cathartic Acid**, a glucoside contained in senna, being not subjected to long exposure to heat, is preserved from oxidation; if isolated, it is sometimes prescribed in doses of 4 to 8 grains in pills, but it is very unstable.

Elixir Acidum (Haller's Acid Elixir).

Syn. LIQUOR ACIDUS HALLERI (Danish P.).

Dose.—2 to 8 minims.

Strong Sulphuric Acid,
Rectified Spirit, of each equal weights.

Mix carefully and gradually.

Austrian P. has Liquor Acidus Halleri 1 to 3 of spirit (weight); P.G. III., Mixtura Sulfurica Acida 1 to 3 (weight); Codex, Acide Sulfurique Alcoolisé 100 to 300, and red poppy petals 4 (weight); and T.H., Acidum Sulphuricum Alcoholisatum 15 to 105, and oil of sage 1 (measure). In all these much of the sulphuric acid is in the form of ethyl-sulphuric acid (sulphovinic acid), which is more agreeable in taste than diluted sulphuric acid. If mixed with sweetened water, they form agreeable cooling drinks, useful in checking excessive perspiration. Elixir of Vitriol, **Acidum Sulphuricum Aromaticum,** B.P. (sulphuric acid 1½ fluid parts, added to rectified spirit 18 parts; with spirit of cinnamon and essence of ginger of each 1 part), is a weak form of the old Mynsicht's Elixir Vitrioli—in this ethyl-sulphuric acid is formed on keeping, but not much while making. The preparation would be improved by carefully heating the mixture of acid and spirit to encourage the formation of the vinous acid.

EMBLICÆ FRUCTUS.

Emblic Myrabolan Fruit.

Dose.—One, two, or more as required. The taste of the pulp is very agreeable.

The fruit preserved in syrup, or crystallised in sugar, of *Myrabolanus emblica, Emblica officinalis*, or Nilicamam (*Hindi*). Used in India to excite the appetite, and taken after meals for atonic dyspepsia. In the fresh state, the fruit consists of a fleshy, acidulous pulp enveloping an angular nut. The pulp is rather austere, and is possessed of purgative properties.

The fresh juice is cooling, diuretic, and laxative. The confection promotes the appetite, and acts as a tonic. —Dutt's Hindu Materia Medica.

Tried carefully in several cases of habitual constipation; is a valuable addition to our list of laxatives. It may be taken at dinner or dessert. It is most valuable for children.—B.M.J. ii./82,173.

Confectio Emblicæ.

The fruit, pulped and freed from nuts, &c.

Dose.—1 or 2 teaspoonfuls.

Crystallized Emblic Fruits (dry).

Dose.—One, two, or more.

ERGOTA.

Ergot of Rye (*Off.*).—*Syn.* SECALE CORNUTUM.

Dose.—10 to 30 grains in recent powder infused in boiling water.

Extractum Ergotæ Liquidum (*Off.*). *Dose.*—10 to 60 minims, 1 = 1 of Ergot.

Infusum Ergotæ (*Off.*). *Dose.*—1 to 2 ounces, 1 = 40.

Tinctura Ergotæ (*Off.*). *Dose.*—15 to 60 minims, 1 = 4.

Acidum Scleroticum.—See p. 184.

Cornutine (Kobert). *Dose.*—$\frac{1}{6}$ grain daily.

A brownish-grey amorphous alkaloid contained in ergot, very slightly soluble in water. Is said to be an efficacious hæmostatic in hæmorrhage from genito-urinary organs. Raises blood-pressure, but does not cause gangrene. The **Hydrochlorate** and **Citrate**, in brown scales, are more soluble. *Dose* of either.—$\frac{1}{6}$ to $\frac{1}{4}$ grain daily, in divided doses.—L. i./92,766; B.M.J. i./92,500.

Ergotinum, Ergotin, or Ergotine (*Off.*).

Syn.—BONJEAN'S ERGOTIN.

Dose.—1 to 3 or 5 grains, in a pill (with althæa) or hypodermic solution.

The purified aqueous extractive of ergot. As found in English commerce, it is a dark-brown extract, having the odour of roast beef,—sometimes desiccated, and in brittle lumps, very hygroscopic, and freely soluble in water. It is given to check all forms of passive hæmorrhage.

Injectio Ergotini Hypodermica (*Off.*).

Ergotin 1 grain, in camphor water 2 minims.

Dose.—3 to 10 minims.

The writer prepares it of the strength of 1 grain *in* 2 minims; *dose*—2 to 8 minims. Should be freshly prepared, or, if required to be kept, 1 per cent. of carbolic acid should be added to the solution.

Hypodermic Lamels are also prepared containing ⅓ grain of Ergotin combined with gelatine.

Epistaxis — hypodermic injection into the arm, of 3 grains in 10 minims of warm water, is found of the greatest success.—Br. i./75,308.

Epistaxis occurring in the course of a case of trichinosis, Ergotin used as a styptic, also suggested to be used as a killer of the trichinæ.—Pr. xxi.462.

Uterine fibroid, successful treatment of, by hypodermic injections deeply into the muscles of the buttock, of 2 to 5 grains of Ergotin, and 4 grain Ergotin suppositories; use of these continued 5 days previous to periods.—Pr. xxii.32.

A dose of Ergotin, injected deeply into the gluteal muscles just before delivery, seldom fails to give perfect uterine contraction.—Br. i./81,lxviii.

Ergotin causes spasm of arterioles and rise of blood pressure, by acting directly on the vessels independently of the central nervous system.—B.M.J. i./84,97.

Useful in polyuria.—B.M.J. ii./88,845; Pr. xli.452.

Hypodermic injection of ergotin immediately relieved strangury.—Th. Gaz. 1889,647.

Neither ergot nor iron will induce abortion in pregnant women unless previously disposed (Lombe Atthill).—B.M.J. i./89,350.

Menorrhagia controlled by continued use of ergot.—Pr. xliii.450; M.C. July 1890, 306.

A 50 per cent. solution of ergotin as a pigment for erysipelas.—B.M.J. i./90,602,836.

Ergotinina, Ergotinine. *Dose.*—$\frac{1}{200}$ to $\frac{1}{40}$ grain.

An alkaloid in minute white crystals, insoluble in water, soluble in alcohol, ether, chloroform, and dilute acids; solutions in the latter readily decompose on exposure to the air, slight heat, or alkaline reagents; sulphuric acid with a trace of ether turns it to a yellow red, then blue violet colour. **Hypodermic Injection**, Ergotinine 1 grain, lactic acid 2 minims, chloroform water to 1,000 minims, is quick in action in dose of 5 to 10 minims, repeated if needed to the extent of 20 minims. It is costly.—L. ii./82,945.

Ergotininæ Citras. *Dose.*—$\frac{1}{150}$ to $\frac{1}{30}$ grain.

A soluble salt of the above, in greyish powder, suitable for hypodermic injection.

Liquor Ergotæ Aceticus. *Dose.*—10 to 60 minims. An acid preparation, as U.S., 1860, but since discarded, is sometimes ordered. 1 = 1 of Ergot.—B.M.J. i./88,743,1148.

Liquor Ergotæ Ammoniatus.—1 = 1 of Ergot. *Dose.*—10 to 60 minims.

A preparation in which Ergot is exhausted by ammoniated proof spirit.

Pharmaceutically, it has been found that ammonia not only exhausts Ergot of its active medicinal properties, but also secures a uniform, stable preparation; whilst, therapeutically, the combination of ammonia and Ergot is indicated in some forms of post-partum hæmorrhage, &c.

A remarkably active preparation of the drug.—L. i./76,93; B.M.J. i./76,89.

A more efficient and reliable preparation, as powerful in action, if not more so, than the fresh infusion prepared from recently powdered Ergot.—L. i./77,115.

Tinctura Ergotæ Ammoniata, B.P.C.—1 in 2 of Aromatic Spirit of Ammonia. *Dose.*—10 to 60 minims.

Acidum Scleroticum, Sclerotic Acid.

Syn. SCLEROTINIC ACID.

Dose.—½ to ¾ of a grain hypodermically.

This weak acid principle is, according to Dragendorff, the most active of a series of preparations he has obtained from Ergot. It is uncrystallizable, pale brown, darkening with age, is hygroscopic, and soluble in water.

Injectio Acidi Sclerotici Hypodermica.

One grain in 6 minims. *Dose.*—3 to 5 minims.

Should be freshly prepared, or, if required to be kept, 1 per cent. of carbolic acid should be added to the solution, as it is prone to change.

Hypodermic Lamels contain $\frac{1}{16}$ grain Sclerotic Acid combined with gelatine.

As a hæmostatic Sclerotic Acid possesses all the virtues of Ergot. Injected hypodermically, it is preferred to Ergotin, as it causes no inflammation at the seat of puncture.

Accounts of its chemical preparation.—P.J. 1876, 1001; P.J. 1877,106.

Note on its physiological and therapeutic properties. It accelerates the intestinal peristalsis, and excites contraction both of the pregnant and non-pregnant uterus, pre-existing contractions being intensified. Not a powerful poison, 0·02 to 0·03 gramme being a dose by hypodermic injection.—M.T.G. ii./79,642.

ERYTHROPHLŒUM.

Casca Bark.—*Syn.* SASSY BARK; ORDEAL BARK.

The bark of *Erythrophlœum guineense*, a leguminous tree, has an action resembling that of digitalin and picrotoxin combined. Its powder causes most violent sneezing, and it is a powerful poison. It contains an alkaloid—Erythrophlœine.—P.J. 1876,77.

Erythrophlœinæ Hydrochloras. *Dose.*—$\frac{1}{40}$ to $\frac{1}{24}$ grain.

In yellowish white granular crystals, readily soluble in water. The solution has an acrid, bitter taste. Has the combined action of digitalin and picrotoxin—5 milligrammes ($\frac{1}{13}$ grain) produced cramps, and was fatal to cats and guinea pigs,—for dogs a somewhat larger dose was required.—Archiv für exp. Path. u. Pharm. 1882,483.

Said to possess local anæsthetic properties, which has not been confirmed.—L. i./88,249,346; B.M.J. i./88, 545,604,661,662.

In mitral disease and cardiac dropsy depending on it, it is a more powerful remedy than digitalis, its effect on the arterioles is greater, and is useful in dilated heart. — B.M.J. i./77,345,379; B.M.J. i./78,490; L. i./83,185. Physiological action.—Phil. Trans. Roy. Soc. clxvii. pt.2,627.

Causes increase of arterial pressure, followed by irregularity and then slowing of the heart. Dyspnœa is generally diminished. A dose well borne by the digestive organs produces little effect on the heart, even in cases of disease.—B.M.J.E. i./92,19; Pr. xlviii.295; M.C. Mar. 1892,397.

Tinctura Erythrophlœi, B.P.C.

1 in 10 of rectified spirit. *Dose.*—5 to 10 minims.

Eserine and **Eseridine.**—See p. 325.

ETHIDENI DICHLORIDUM.

Dichloride of Ethidene.—*Syn.* MONOCHLORETHYL-CHLORIDE; CHLORINATED CHLORIDE OF ETHYL.

A colourless volatile liquid possessing the odour and taste of chloroform. It is said to be identical with Chloride of Ethylidene, which is obtained as a bye-product in the manufacture of chloral, or may be made by the action of pentachloride of phosphorus on aldehyde, but a much more certain and uniform product may be obtained if made as the Monochlorethyl-Chloride, the preparation first used by Snow. It has Sp. Gr. about 1·2, boiling point 135° to 150° F. (147·2° Regnault.) It is isomeric with chloride of ethylene (Dutch liquid), but the boiling point and Sp. Gr. of the latter are higher. Dichloride of Ethidene is miscible in all proportions with pure ether, alcohol, and chloroform, soluble about 1 in 300 in water, being less so than chloroform.

It was used as an anæsthetic by Dr. Snow, who died while finishing his work on anæsthetics. He was taken ill while writing on this liquid; in the middle of a sentence he wrote his last word on the page. The word was "exit."—M.T.G. i./70, 642; P.J. 1870,3.

Compared with chloroform, Dichloride of Ethidene is pleasanter, more rapid in action, causes no excitement during nor after administration, more rapid recovery from it, and altogether there is less danger attending its use. Children require about 1 drachm, adults 4 or 5 drachms.—Steffen in Binz.

A dog will live for a lengthened period in a state of complete anæsthesia under the influence of Ethidene Dichloride, whilst it will die in a short time when chloroform is used. The circulation is more easily re-established when the cessation is due to Ethidene than to chloroform, but not so quickly as when due to ether. Ethidene reduces the blood pressure by regular gradations, and not, as with chloroform, by sudden and unexpected depressions. Under the use of Ethidene, there was, on no single occasion, an absolute cessation either of the heart's action or of respiration, although they are sometimes very much reduced. The disadvantages of ether in affecting respiration are, to a great extent, obviated by the use of Ethidene, whilst the dangers of chloroform are reduced to a minimum.—Reports of the Glasgow Committee on the action of Anæsthetics. B.M.J. i./79,2; B.M.J. ii./80,957.

Preferred to bromide of ethyl.—B.M.J. i./80,586.

Lecture on use in 287 cases of major surgery and 1,565 cases of minor; one death.—B.M.J. i./80,797.

Used in six cases as an anæsthetic, all presented the appearance of a strong stimulant to the heart's action at the commencement of the administration, only one was sick; a good anæsthetic for children.—M.T.G. i./79,62.

For operations on the eye, the writer is confident it is the best anæsthetic yet in use.—B.M.J. i./81,30.

Report of deaths from, result not attributable wholly to the anæsthetic.—B.M.J. i./81,385; L. i./83,143.

Arrest of the heart's action and recovery. It depresses more quickly and markedly than chloroform, but less persistently; on removing inhaler and allowing an inspiration of air, effects at once pass off.—B.M.J. i./81,431.

Action on the frog's heart like that of chloroform.—Pr. xxvii.18.

Ethyl and Ethylene.—See pp. 46, 47.

EUCALYPTI FOLIA.
Eucalyptus Leaves.

Dose.—5 grains or more in powder.

The dried leaves of *Eucalyptus Globulus*, or blue gum-tree of Australia, have been employed medicinally in the treatment of ague and bronchitis, and are now much used in Italy for Roman and malarial fevers; also, when coarsely powdered, are employed for smoking in cigarettes in cardiac and aneurismal asthma. The narrow leaves, mostly scimitar-shaped, are more active medicinally than the broad leaves of herbaceous shoots.

Oleum Eucalypti (*Off.*).

Dose.—1 tô 5 minims emulsified, or mixed with olive oil.

Is principally distilled from the leaves of *Eucalyptus amygdalina* as well as *E. Globulus*, *E. dumosa*, *E. oleosa*, and probably other species. It is to this oil, and partially to the great avidity the tree has for water when growing, that the latter owes its anti-malarial influence. The oil is a powerful antiseptic, and has an ozonising influence on the atmosphere while it oxidises. It has a pale yellow colour, a spicy taste, producing an after-sensation of coldness in the mouth, a camphoraceous odour; boils between 338° and 392° F., and its Sp. Gr. varies from 0·885 to 0·927. It is not caustic, nor should it cause much coughing when inhaled, or irritation when applied to the skin or mucous membrane, yet it is destructive to low organisms. It is soluble in oils, fats, paraffins, and alcohol, but only a trace dissolves in water. An emulsion may be made by putting equal quantities of powdered gum arabic and the oil into a dry bottle, adding 40 parts of water, more or less, and shaking well. This is useful as an urethral injection or lotion, and may be given internally in 1 to 4-drachm doses. The oil is useful mixed with an equal quantity of olive oil as a rubefacient for rheumatism, and is a popular prophylactic, inhaled or sprayed, for influenza. The oil of *E. maculata, var. citriodora* has an agreeable odour resembling that of citronella.

A large percentage of Eucalyptus oil consists of **Eucalyptol,** a liquid also met with in commerce; it is that portion of the above oil which passes over between 347° and 351° F., and crystallizes at 30° F. This is contained in the oils of *E. cneorifolia* (which has a cumin-like odour), *E. dumosa*, and *E. oleosa*. It is obtained by treating the latter with caustic potash, then with chloride of calcium and subsequent distillation. It is preferred to the crude oil for use in the oro-nasal inhalers, as it does not dry up as a varnished coating. Phellandrene, which crystallizes with nitrous acid, is a large constituent of the oil of *E. amygdalina*.

Eucalembroth Gauze.—See p. 223.

Eucalyptus Gauze, Carbasus Eucalypti. An antiseptic surgical dressing, in 6-yard pieces. Unbleached cotton gauze, impregnated with Oil of Eucalyptus 1, Dammar Resin 3, Paraffin Wax 3. In using it there is no danger of poisonous absorption of the antiseptic, as with carbolic acid gauze.—L. i./81,838; B.M.J. i./81,850.

Eucalyptus Sawdust.

Oil 1, Sawdust 8. Used to deodorise the air of rooms.

Eucalyptus Wool, with 5 per cent. of Oil.

Iodoform and Eucalyptus Bougies.—See Iodoform, p. 240.

Tinctura Eucalypti Foliorum, B.P.C.

One part of leaves with rectified spirit to produce 5 parts of tincture. *Dose.*—15 minims to 2 drachms.

Unguentum Eucalypti (*Off.*).

Hard Paraffin 2 ounces, Soft Paraffin 2 ounces. Melt, and add while hot, Oil of Eucalyptus 1 ounce. Stir till cold. A mild antiseptic dressing.

Unguentum Iodoformi et Eucalypti.—See Iodoform, p. 242.

History of the drug, its uses and botanical origin. Is a febrifuge, the leaves are also employed as a healing application to wounds.—M.T.G. i /74,540; P.J. 1874, 872; P.J. 1879,865.

Ague, rapid cure of, by 1 to 2 drachm doses of the tincture.—Pr. xviii.366.

In ozæna, bronchitis with profuse foul expectoration, and uterine catarrh, tincture and infusion used both internally and externally.—Pr. xx.206.

Tincture used in intermittent fever.—Pr. xxiv.138; xlvii.26. In scarlet fever.—B.M.J. ii./89,921.

In diphtheria, a mixture of 5 grammes of oil, 25 grammes of rectified spirit, and 170 grammes of water used for 10 inhalations, or equal parts of the oil and rectified spirit, of which 10 to 60 drops were used for an inhalation.—M.T.G. ii./79,214; Th. Gaz. Oct. 1888,670.

Oil of Eucalyptus is a powerful antiseptic—more than three times as strong as carbolic acid in preventing development of bacteria, and not so poisonous. 80 minims may be taken in 2¼ hours.—Pr. xxv.212.

As a surgical dressing, gauze dipped in a solution of the oil 3, alcohol 15, and water 150. This gauze may be left undisturbed 4 or 5 days.—L. ii./80,387.

Air impregnated with Eucalyptus oil vapour recommended as a substitute for the carbolic spray.—B.M.J. ii./82,420.

Pessaries, composed of 6 drachms of Eucalyptus oil, and 4 drachms each of oil of theobroma and white wax, divided into 12, one night and morning, or at night only, found useful after parturition, checks fœtor and decomposition of lochial discharge; and 5 minims of Eucalyptus oil mixed with 20 of olive oil, used and recommended as a hypodermic injection for pyæmia.—L. ii./82,343.

Use of steam from the infusion of leaves in infectious diseases, especially diphtheria.—L. i./83,316; vapour of Eucalyptus oil used for diphtheria.—L. ii./83,362. Also with carbolic acid and turpentine.—Pr. xlvii.430; L. i./92,47; Th. Gaz. 1892,49.

Headache, especially of congestive type, benefited by doses of 5 minims of oil.—Th. Gaz. Sept. 1889,643.

Use of oil as disinfectant in scarlet fever.—B.M.J. ii./89,1151; i./90,723; L. i./90,754; i./91,984. Atmosphere charged with same useful in cancer.—B.M.J. ii./89,1276.

Inhalation of oil is prophylactic to influenza, relieves the headache and oppression.—L. i./90,127,267; i./92, 1185.

Recommended in typhoid, diphtheria, and nasal catarrh.—L. ii./90,1266.

EUCALYPTI GUMMI.

Eucalyptus Gum. (*Off.*).—*Syn.* RED GUM.

Dose.—2 to 10 grains. May be made into pills with mucilage of acacia and a trace of glycerine, quickly manipulated.

A ruby-coloured exudation from *Eucalyptus rostrata* and some other species, imported from Australia. From 80 to 90 per cent. of it is soluble in cold water. Tough, and difficult to powder, it adheres to the teeth when chewed, is intensely astringent to the mucous membrane, useful in diarrhœa, relaxed throats, and given with success to check the purging of mercurial pill administered for syphilis.

Lozenges for sea sickness.—B.M.J. i./90,419.

This gum should be distinguished from the common Australian or Botany Bay kino, said to be the produce of *E. resinifera*. The latter is very resinous and little soluble in water.

Decoctum Eucalypti Gummi. 1 in 40.

Boil till dissolved and strain. Used as gargle, and given for diarrhœa in 2 to 4 drachm doses.—L.ii./83,1029.

Extractum Eucalypti Gummi Liquidum.

Eucalyptus Gum 1, Distilled Water 3. Dissolve by constant shaking and strain. *Dose.*—30 to 60 minims in water.

A styptic. Injected into the nostril stops bleeding from the nose, and applied on lint arrests hæmorrhage from wounds. A tablespoonful to a pint of water forms an astringent injection for the vagina or bowel (Squire). This dilution may be also used as a gargle.

Insufflatio Eucalypti Gummi.

Eucalyptus gum in fine powder.
Starch in powder, of each ... ½ grain.

Applied by means of an insufflator, is a powerful astringent in hæmorrhage and relaxed conditions of the larynx and trachea. It does not thus affect the palate or appetite.

Syrupus Eucalypti Gummi.

Liquid Extract of Eucalyptus Gum 5 ounces, Sugar 3 ounces. Dissolve. *Dose.*—30 to 60 minims.

Tinctura Eucalypti Gummi.

Eucalyptus Gum 1 ounce, Rectified Spirit 4 ounces. Shake till dissolved and strain. *Dose.*—20 to 40 minims. 1 part to 7 of water forms a very astringent gargle.

Trochisci Eucalypti Gummi.

Contain 1 grain in each, combined with fruit paste.

Trochisci Eucalypti Compositi.

Chlorate of Potassium 2 grains, Cubeb Powder ¼ grain, Eucalyptus Gum 1 grain. With fruit paste, and are marked C.E. Useful in congested and relaxed throats, especially when accompanied by arrest of mucous secretion.

EUONYMI CORTEX.

Euonymus Root Bark. (*Off.*).

Obtained from *Euonymus atropurpureus*, the wahoo or spindle-tree.

'Euonymin.' *Made official as*

Extractum Euonymi Siccum. **Dry Extract of Euonymus.** *Dose.*—1 to 4 grains.

The bark in No. 20 powder is percolated with equal volumes of rectified spirit and water mixed, the percolate concentrated, sugar of milk added, and the mixture evaporated until it becomes brittle when cold. It must contain 80 per cent. of the dry extractive. If powdered, must be well corked, and kept cool and dry, or it cakes together again. Possesses tonic, hydragogue, cathartic, diuretic, and antiperiodic properties. The so-called principle, Euonymite, obtained from it, proves to be identical with Dulcite.—P.J. 1889,273,460,472.

Pilula Euonymin.

Euonymin 2 grains, Extract of Henbane, *q.s.* To make one pill; take at bedtime. A cholagogue stimulant, producing no depression or headache; requires to be followed by a saline aperient in the morning.—Pr. xxiii.335.

A powerful hepatic stimulant, but not nearly so powerful an irritant of the intestine as podophyllin.—B.M.J. Rep. 1878,63; B.M.J. i./79,177.

One grain, combined with 4 grains iridin, is a successful purging dose.—B.M.J. ii. 79,932.

Extractum Euonymi Liquidum.

1 = 1 of bark, treated with rectified spirit 4, water 1. *Dose.*—10 to 60 minims.

Tinctura Euonymi, B.P.C.

Dose.—10 to 40 minims.

Euonymus Bark in No. 20 powder 4 ounces, Rectified Spirit 1 pint. Moisten the powder, and macerate for 24 hours; then percolate to 1 pint.

EUPHORBIA PILULIFERA.

The dried Snake Weed or Cat's Hair, an Australian plant, is used for asthma, bronchial affections, paroxysmal dyspnœa, laryngeal spasm, whooping cough, angina pectoris, and in all affections of the pneumogastric. It appears to act directly and solely on the respiratory and cardiac centres.—L. ii./85,86; P.J. 1885,987; L. ii./91,505. Useful in coryza, hay fever, and asthma.—Th. Gaz. 1890,449; B.M.J.E. i./92,79.

Decoctum Euphorbiæ Piluliferæ.—1 in 40.
Dose.—2 ounces twice daily.

Extractum Euphorbiæ Piluliferæ.
Dose.—½ to 1½ grains; is an aqueous extract.

Tinctura Euphorbiæ Piluliferæ, B.P.C.
1 in 5 of proof spirit. *Dose.*—10 to 30 minims.

EXTRACTUM CARNIS.

Extract of Meat.—*Syn.* LIEBIG'S EXTRACT. Sold in 2, 4, and 16 oz. jars; principally prepared in South America and Australia. It contains little or no gelatine, but consists of creatin, creatinin, globulin, and urea, with organic potash and other salts. It has been much overestimated as a food, either for invalids or healthy persons; still it is often valuable as a flavouring to add to soups, beef-tea, &c., and it is a *nervous* food allied to tea. A teaspoonful may be added to a breakfast-cup full of boiling water, with salt to taste, to form a beef-tea.

Creatin, a constant constituent of muscle, has been recommended for cases of debility, and stimulating power of muscular action, in doses of 1½ grains four to six times daily.—P.J. 1888,506.

Other preparations of meat sold for medicinal use are:

Concentrated Beef-Tea.
A firm jelly, sold in ¼ and ½ lb. tins, also in skins, contains the natural gelatine of the meat, and, diluted, forms a nutritious substitute for true beef-tea.

Essence of Beef. Sold in 2 and 4 oz. tins.
A soft, transparent, amber-coloured jelly, prepared from beef by exhausting with tepid water. It is agreeable to the palate and stomach of a delicate invalid; will often be relished when all other food is repelled, and is useful in allaying obstinate vomiting. It is best taken cold by teaspoonfuls, as desired, with or without a little bread and wine. A similar preparation is made from chicken.—M.T.G. i./61,536,587.

Meat Lozenges (Brand's).
Sold in boxes; are savoury, gelatinous essence of beef lozenges, and contain substantial support for travellers in a portable form.

Peptonised Beef Jelly.—See Pancreas, p. 303.

Meat Juice (Valentine's). Sold in 2 oz. bottles.
A dark, reddish-brown liquid preparation of meat, im-

ported from Richmond, U.S.A. It is the expressed juice of meat concentrated at a low temperature in vacuo. A teaspoonful is added to 8 tablespoonfuls of cold or tepid water, and taken in tablespoonful doses or more for sickness or exhaustion. Hot water coagulates the albumen in it.

Sanguis Bovinus Exsiccatus, Desiccated Blood. An American preparation.

Blood freed from fibrin, evaporated, at a low temperature, to dryness. Is in blackish-red, opaque scales, like tartarated iron in appearance, readily soluble in cold water. One part in 8 of tepid water may be used as an enema; the same strength, with the addition of a little glycerine and brandy, to keep the mixture, is recommended to be given in tablespoonful doses; or it may be given powdered, put into cachets.

Useful as a nutritive enema.—L. i./81,322; ii./83,278.

FERRUM.

Iron (*Off.*).

Ferri Bromidum. Bromide of Iron, Ferrous Bromide.

Dose.—3 to 10 grains.

Prepared by the direct combination of bromine with metallic iron in the presence of water, and evaporating the solution till, when cooled, it will solidify. In greyish-white deliquescent masses, which, on exposure to the air, acquire a brown colour from oxidation.

Syrupus Ferri Bromidi. B.P.C. *

Dose.—½ to 1 drachm.

Iron Wire, free from oxide	½ ounce.
Bromine	533 grains.
Refined Sugar	14 ounces.
Distilled Water... ...	*q.s.* to 1 pint.

Dissolve the sugar in 6 ounces of water, by the aid of heat. Put the iron wire with 4 ounces of water into a pint flask, and surround it with cold water. Then add the bromine in successive quantities; shake occasionally until the froth becomes white, and the reaction is complete. Filter the solution into the warm syrup, and add, if necessary, distilled water *q.s.* to 1 pint.

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* **Syrupus Ferri Bromidi,** in early editions, was directed to be, and can be more readily, prepared by heating together Bromide of Iron 160 grains, Iron Wire, free from oxide, 10 grains, Distilled Water 3 drachms; till, on filtering, the solution passes almost colourless; when the liquid ceases to pass, washing the filter with a few drops of distilled water, and adding the whole of the filtrate to syrup *q.s.* to 4 ounces. It is nearly identical in strength with the above.

Each drachm contains about 4½ grains of bromide of iron. The U.S. syrup is stronger—contains 10 per cent.

Syrupus Ferri et Strychninæ Hydrobromatum.—*Syn.* SYRUPUS FERRI BROMIDI CUM STRYCHNINA. *Dose.* — 1 drachm = $\frac{1}{64}$ grain Strychnine (in early editions $\frac{1}{32}$ grain) and about 4½ grains of Bromide of Iron.

Strychnine 1 grain, Diluted Hydrobromic Acid 3 drachms; dissolve and add Syrup of Bromide of Iron to 8 ounces.

In one drachm of each of the last two syrups one grain of acid hydrobromate of quinine is dissolved to form respectively,

Syrupus Ferri et Quininæ Hydrobromatum. B.P.C.—*Syn.* SYRUPUS FERRI BROMIDI CUM QUININA. *Dose.*—½ to 1 drachm. And

Syrupus Ferri Quininæ et Strychninæ Hydrobromatum. B.P.C.—*Syn.* SYRUPUS FERRI BROMIDI CUM QUININA ET STRYCHNINA. *Dose.*—½ to 1 drachm.

Syrupus Ferri Subchloridi. Syrup of Subchloride of Iron (*Off.*).—*Syn.* SYRUP OF FERROUS CHLORIDE. *Dose.*—½ to 1 drachm.

Iron Wire 300 grains, Hydrochloric Acid 2 ounces, Distilled Water 1 ounce. Heat gently till the action ceases, add Citric Acid, 10 grains, and filter into Syrup 10 ounces, passing an additional 2 drachms of Distilled Water also through the filter. Lastly, add Syrup *q.s.* to 1 pint. Sp. Gr. should be about 1·340. One drachm contains about 4 grains of ferrous chloride. Is less styptic and astringent than ferric preparations.

Ferri Carbonas Saccharata. Saccharated Carbonate of Iron (*Off.*).

Dose.—5 to 30 grains, in pills or cachets.

Ferrous carbonate mixed with peroxide of iron and sugar, the mixture containing about one-third of its weight of anhydrous carbonate.

One drachm doses useful in chloremia.—B.M.J. i./90, 1239.

Pilula Ferri Carbonatis (*Off.*). Saccharated Carbonate of Iron 4, Confection of Roses 1. *Dose.*—5 to 20 grains.

Better made with simple syrup, and is preferable to Blaud's Pill; useful in anæmia.—B.M.J. i./91,274; L. i./91,292.

Pilula Ferri (Blaud's Pill) (*Off.*). Sulphate of Iron 60 grains, Carbonate of Potassium 36 grains, Refined Sugar, in powder, 12 grains, Tragacanth, in powder, 4 grains, Glycerine 2½ minims, Water *q.s.* (better omitted). To make 24 pills. *Dose.*—1 to 4.

Chlorosis of young females best treated by a course of Blaud's Pills, increased up to 15 daily.—L. i./92,517.

Ferri Perchloridum. Perchloride of Iron.

(With 12 molecules of water of crystallization.)

Dose. —2 to 8 grains.

The official preparations of Perchloride of Iron are: —Liquor Ferri Perchloridi, *dose*, 10 to 30 minims; Liquor Ferri Perchloridi Fortior, *dose*, 2 to 8 minims; and Tinctura Ferri Perchloridi, *dose*, 10 to 30 minims. They are incompatible with infusions, &c., containing tannin, with the alkalies, alkaline carbonates, and mucilage of acacia. The tincture, composed of strong liquor 1, rectified spirit 1, and water 2, is the most generally used, and most valued preparation of iron for internal administration in anæmia, chlorosis, &c. If diluted from well-prepared strong Liquor, the tincture is more stable than the weak Liquor, which, for economy's sake, often supplants it. The strong Liquor is generally employed topically as a styptic or pigment; for this purpose, it has the disadvantage of containing a little more free acid than chemically neutralises the iron as perchloride. As a hæmostatic, therefore, the solid crystallized perchloride of iron containing 12 molecules, 40 per cent. of water, or a strong solution of it, is preferred. This salt is prepared by carefully evaporating the stronger official solution and setting aside to crystallize. It is in pale orange-yellow opaque crystalline masses, very deliquescent, and entirely soluble in water. A crystalline perchloride of iron, containing only five molecules of water, is much used in France; it is in drier masses, but does not make a bright solution. The anhydrous perchloride, having such great affinity for water, would act as a powerful caustic.

A **Liquor Ferri Perchloridi Fortior** of B.P. Sp. Gr. 1·42 may be made from the first-named salt by dissolving Perchloride of Iron, with 12Aq. 5 parts, in Distilled Water 2 parts.

In T. H. the salt is ordered in

Injectio Ferri Perchloridi, 60 grains in 1 ounce.

Nebula Ferri Perchloridi, 3 grains in 1 ounce.

Pigmentum Ferri Perchloridi Dilutum, 60 grains in 1 ounce.

Pigmentum Ferri Perchloridi Forte, 120 grains in 1 ounce.

Glycerinum Ferri Perchloridi, G.H.

Perchloride of Iron 1, Glycerine 4. For use as a paint. Glycerine covers its metallic astringent taste when given internally, and modifies the styptic properties of Perchloride of Iron partially by its viscosity, and partially by reducing it from the ferric to the ferrous state.

In post-partum hæmorrhage Perchloride of Iron is of great service. Soak a sponge, fixed on a whalebone stem, in a mixture of one volume of the stronger Liquor Ferri Perchloridi B.P. (= 1 part of solid, which is more styptic and portable) with three volumes of water, and pass into the cavity of the uterus as a swab.—Barnes' Obstetric Operations, 3rd edit., 476. Also used as an injection, 1 of solid to 10 of water.

Gossypium et Linteum Ferri Perchloridi, Styptic Wool and Lint, each contain 15 per cent. of the perchloride.

Ferri et Quininæ Chloridum.—See p. 350.

Tinctura Ferri Muriatis. P.E. *Dose.*—10 to 30 minims.

Sesquioxide of Iron (prepared by precipitation of ferrous sulphate with sodium carbonate) 6 ounces, Muriatic Acid 1 pint. Digest three days; add Rectified Spirit 3 pints, and filter. Contains some Ferrous Chloride, and is preferred by some practitioners.—B.M.J. i./87,1206; ii./87,69,95,107,217,335.

Mistura Ferri Amara. U.C.H.

Solution of Perchloride of Iron 30 minims, Spirit of Chloroform 5 minims, Infusion of Quassia to 1 ounce.

Mistura Ferri Aperiens. U.C.H.

Sulphate of Magnesium 60 grains, Sulphate of Iron 4 grains, Diluted Sulphuric Acid 9 minims, Peppermint Water to 1 ounce.

Mistura Ferri Arsenicalis. U.C.H.

Citrate of Iron and Ammonium 7½ grains, Arsenical Solution 5 minims, Tincture of Calumba 24 minims, Water to 1 ounce. *Dose.*—½ to 1 ounce.

Mistura Ferri Perchloridi. U.C.H.

Solution of Perchloride of Iron 15 minims, Spirit of Chloroform 9 minims, Glycerine 9 minims, Water to 1 ounce.

Mistura Ferri Salina. U.C.H.

Citrate of Potassium 22 grains, Solution of Perchloride of Iron 24 minims, Spirit of Chloroform 9 minims, Water to 1 ounce. The styptic taste of iron is masked in this mixture, as a double decomposition occurs between the iron and the potash salt. If to 30 minims of the solution of Perchloride of Iron 15 minims of the solution of Citrate of Ammonium be added, its styptic taste is effectually disguised.

Liquor Ferri Chloroxidi.

Strong Solution of Perchloride of Iron 4, Distilled Water 40. Mix, and add in excess, Solution of Ammonia, *q.s.*; collect, wash well the precipitate, stir, and dissolve it with a gentle heat in Strong Solution of Perchloride of Iron 1, Distilled Water, to make when filtered 20. *Dose.*—10 to 30 minims. *Is nearly identical with* Liquor Ferri Oxychlorati, P.G. III.

The above makes a basic solution of Ferric Chloride, of the same strength as the tincture. By placing this solution on a septum floating in water, it may be further freed from chloride, and rendered less styptic in taste, forming

Liquor Ferri Dialysatus (*Off.*).—Sp. Gr. 1·047. *Dose.*—10 to 30 minims.

The two last preparations, made as directed, are dark reddish-brown in colour, and contain about 5 per cent. of ferric chloride. The strength of the latter will be slightly variable, as some of the iron passes through the septum. The manufacturers' processes for making it vary; it is, in reality, *un*-dialysed, or colloid, iron, as it does not pass through the septum; doubts have, therefore, been cast on its digestibility and its utility as a medicine.—P.J. 1880,639,709,723.

These two preparations of iron are useful when the strong acid preparations of iron cannot be borne by the stomach, but they are compatible with few other medicines, they will not bear dilution with common water, or with much distilled water without depositing the oxide. They ought, therefore, to be supplied to the patients as "drops," undiluted, or mixed with glycerine. —See below.

Dialysed iron is useful as an antidote to arsenic—much superior to the moist peroxide; 1 ounce doses should be given repeatedly, preceded by a dose of common salt or bicarbonate of sodium.

Glycerinum Ferri Dialysati.

Dialysed Iron Solution 1, Glycerine 2. Keeps well, and is palatable. *Dose.*—1 drachm.

Syrupus Ferri Dialysati.

Dose.—1 drachm (contains 20 minims of liquor). Is a very unstable preparation.

Experiments as to the antidotal value of dialysed iron solution.—P.J. 1878,281,569,1001.

Arsenical poisoning case recovered by treating with 2-drachm doses given diluted with water frequently.—P.J. 1878,570.

The chloroxide solution in treating a case of extreme anæmia during nine weeks, increased the number of red-blood corpuscles from 26 per cent. to 92 per cent.; in another case, patient taking Liq. Ferri Chloroxidi, m.xx., cum Liq. Bismuthi et Ammonii Citratis, m.xx., ter die, for thirteen weeks, from 47 to 102 per cent.—L. i./78,675; Pr. xxi.1.

Liquor Ferri Albuminati, Solution of Albuminated Iron (after Dieterich; *Liquids to be weighed*).

Dose.—1 to 4 drachms.

Mix	Solution of Chloroxide of Iron	120
with	Distilled Water at 50°C. ...	4000
Dissolve	Dried Egg Albumen	30
in	Distilled Water at 50°C. ...	4000

Add the albumen solution to the iron solution, and exactly neutralize the mixture with

Solution of Soda diluted with 5 times its bulk of water.

Let the resulting precipitate settle, pour off the liquid, and wash the precipitate repeatedly with

Distilled Water at 50° C.

until the washings are free from chloride. Collect and drain it on linen, then transfer it to a tared bottle, and dissolve by adding

	Solution of Soda	18·3

To the resulting solution,

add	Rectified Spirit	160
diluted with	Cinnamon Water	90
and then	Distilled Water to	1000.

Contains about 4 of Iron in 1000. Is easily digested and borne by a delicate stomach.

Liquor Ferri Peptonati. Solution of Peptonated Iron (after Dieterich; *Liquids to be weighed*).

Dose.—1 to 4 drachms.

Dissolve	Dried Egg Albumen ...	10
in	Distilled Water	1000
Add to this	Pepsin	0·5
and	Hydrochloric Acid	14

Digest the mixture for 12 hours at 40° C. (104° F.); cool and neutralize with Solution of Soda;

then add	Solution of Chloroxide of Iron	120
diluted with	Distilled Water	1000

Again neutralize exactly with

Solution of Soda diluted with 7 times its bulk of water.

Pour off the liquid from the precipitate when it has subsided, and wash the precipitate with

Distilled Water until free from chloride.

Collect and drain the precipitate on linen, transfer to a tared bottle and dissolve by addition of

	Hydrochloric Acid	1·17

warming slightly to promote solution,

Now add	Simple Syrup	10
	Compound Tincture of Cinnamon ...	10
	Rectified Spirit	150
and	Distilled Water to...	1000.

This solution is clear by transmitted light, but opaque by reflected light.

Liquor Ferri Peptonati cum Quinina.

Dose.—1 to 4 drachms. Contains ½ per cent. of Hydrochlorate of Quinine.

Liquor Ferro-Manganesii Peptonati. Solution of Peptonated Iron and Manganese. *Dose.*—1 to 4 drachms. Contains, in addition to Iron, 0·1 per cent. of Manganese.

Tinctura Ferri Pomata, P.G. III.

Dose.—15 to 30 minims.

Ferrated extract of apples (prepared by digesting iron filings in juice of sour apples) 1 part, Cinnamon Water (P.G., containing 10 per cent. of alcohol) 9 parts. Dissolve and filter.

Liquor Ferri Acetatis Fortior (*Off.*).

Ferric hydrate is precipitated by means of excess of ammonia from solution of persulphate of iron 5, diluted with water 40: it is washed, drained, squeezed, and lastly dissolved in glacial acetic acid 3, and water added *q.s.* to 10; after standing, decant. This forms the strong solution, which is diluted (1 to 3) to make **Liquor Ferri Acetatis**, and **Tinctura Ferri Acetatis.** *Dose* of each.—5 to 30 minims.

Ferri Phosphas. Phosphate of Iron (*Off.*). Ferrous Phosphate.

The U.S. Ferri Phosphas is a soluble sodio-citro-ferric phosphate.

Dose.—2 to 10 grains.

Syrupus Ferri Phosphatis (*Off.*).

Dose.—1 drachm, contains 1 grain of phosphate of iron.

The B.P. process may be simplified as follows:—

Iron Wire, free from oxide	360 grains.
Concentrated Phosphoric Acid, Sp. Gr. 1·5*	10 ounces, 463 minims.
Distilled Water	6 ounces.

Place in a glass flask, so that the fluid completely covers the iron wire, plug the neck with cotton wool, and put in a warm place until dissolved. Then filter and add

Syrup (cold)	72 ounces.
Distilled Water to	96 ounces.

Mix. It is best kept in bottles quite full.

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* The B.P. preparation is now exceedingly acid. If 7½ ounces only of the concentrated acid be used, it will be equal in strength to that of B.P. 1867. Even this is very acid, but keeps well.—P.J. 1887,515.

Syrupus Ferri et Manganesii Phosphatum.

May be made by dissolving ½ grain phosphate of manganese in each drachm of the last.

Syrupus Ferri Phosphatis Compositus, B.P.C.

Syn. Chemical Food; Parrish's Syrup (*modified*).

Dose.—½ to 2 drachms.

Iron Wire, free from oxide...	37½ grains.
Concentrated Phosphoric Acid, Sp. Gr. 1·5 ...	1 ounce.
Distilled Water	5 drachms.

Place in a glass flask, so that the liquid completely covers the wire, plug with wool, and heat gently till dissolved. Now take of

Precipitated Carbonate of Calcium	120 grains.
Concentrated Phosphoric Acid	4 drachms.
Distilled Water	2 ounces.

Mix and add

Bicarbonate of Potassium ...	9 grains.
Phosphate of Sodium ...	9 grains.

Then add the solution of phosphate of iron, filter, and set aside.

Cochineal	30 grains.
Distilled Water	7½ ounces.

Boil for 15 minutes and filter, pouring over the filter sufficient water to produce seven ounces. To this add

Refined Sugar	14 ounces.

Heat till dissolved and strain. When cold, add the solution of phosphates, and sufficient water to measure 1 pint. Contains in each drachm about ½ grain Phosphate of Iron and ⅘ grain Phosphate of Calcium, with small quantities of the Phosphates of Potassium and Sodium. It should be kept in bottles quite full. It is not too nauseous to administer to children, for whom it is frequently prescribed, in teaspoonful doses.

Syrupus Ferri, Quininæ et Strychninæ Phosphatum. *Adopted by B.P.C. and as* Syrupus Trium Phosphatum, G.H.

Syn. Easton's Syrup (*modified*).

Dose.—½ to 1 drachm. Contains phosphate of iron 1 grain, phosphate of quinine ¾ grain, and strychnine $\frac{1}{32}$ grain in 1 drachm.

The original formula was published in Aitken's Practice of Medicine, vol. ii. p. 62, 5th ed.

Strychnine, in powder ...	5 grains.
Concentrated Phosphoric Acid Sp. Gr. 1·5,	75 minims.
Distilled Water	225 minims.

Dissolve and add

Phosphate of Quinine ...	120 grains.

Dissolve by the aid of a gentle heat, and add

Syrup of Phosphate of Iron to	1 pint.

The quinine is apt to crystallize. Writer recommends one-eighth less sugar.—P.J. 1892,828.

Useful for obstinate gleet.—L. i./88,1019.

Elixir Ferri, Quininæ et Strychninæ Phosphatum.

Dose.—½ to 1 drachm.

As the Phosphate of Quinine is apt to crystallize out of Easton's Syrup, even if containing only ¾ grain in a drachm, a more stable and agreeable preparation may be made by dissolving the strychnine and phosphate of quinine (equal to $\frac{1}{32}$ and 1 grain in a drachm respectively) in the solution of phosphate of iron (*see* Syrupus Ferri Phosphatis, p. 201), and using simple elixir in place of syrup as a vehicle.

Easton's syrup has its equivalent dose in the following pill, which is portable, tasteless, and readily soluble :—

Pilula Ferri (1 gr.), Quininæ (1 gr.), et Strychninæ ($\frac{1}{32}$ gr.) Phosphatum.

Phosphate of Iron	16 grains.
Quinine, pure (=phosphate 16 grs.)	12 grains.
Strychnine	½ grain.
Sugar	8 grains.
Concentrated Phosphoric Acid	20 drops or *q.s.*

Mix quickly, having first triturated the strychnine with the phosphate, and divide into 16 pills. Also made one-half this strength.

Pilula Trium Phosphatum, G.H. Is similar to the above with liquorice powder *vice* sugar.

Ferri et Magnesii Sulphas.

Dose.—2 to 10 grains.

A double salt containing about half its weight of each sulphate; in sea-green crystals with chalybeate taste, soluble 3 in 4 of water.

In 10-grain doses has no astringent or aperient action, hence suitable for prolonged use in chlorosis and anæmia. Given thrice daily in chloroform water.—B.M.J. i./91, 1123; P.J. 1891,1068.

It may be agreeably given as

Granular Effervescent Ferro-Magnesian Sulphate, 5 grains in 1 drachm.

Dose.—One teaspoonful or more.

Ferro-Alumen. Iron Alum, T.H.—*Syn.* FERRI ET AMMONII SULPHAS, AMMONIO-FERRIC ALUM, U.S. *Dose.*—3 to 10 grains, in water.

Pale amethyst octahedral crystals, efflorescent on exposure to the air, odourless, having an acid, styptic taste, and slightly acid reaction; soluble 1 in 3 of water; insoluble in alcohol. Is used internally to arrest hæmorrhage from the kidneys, and employed as an astringent and styptic gargle—8 grains to an ounce—also as a throat spray and pigment.

FILIX MAS.

Male Fern (*Off.*).

The rhizome of *Aspidium Filix-mas.*

Acidum Filicicum. Filicic Acid.

Dose.—6 to 15 grains.

A light, white, amorphous powder, tasteless and inodorous, soluble in alcohol, oils, and alkalies, insoluble in water. Is the active principle of male fern. A crystallized acid, now termed *filicin,* is inactive.—P.J. 1891, 84; Pr. xlvii.299.

Extractum Filicis Liquidum (*Off.*).

Dose.—"15 to 30 minims," or up to 2 drachms.—B.M.J. i./89,319; L. ii./88,1037.

For tapeworm should be administered fasting, in capsules, or emulsified with about half its weight of compound tragacanth powder. **Capsules** contain 15 minims of Liquid Extract. *Dose.*—1 to 4.

FUCUS VESICULOSUS.

Bladder Wrack.—*Syn.* SEA WRACK.

Preparations of this sea-weed, being rich in iodine, bromine, and chlorine salts, have for a long time had the reputation of being useful in reducing corpulence. A liquid extract has been advertised and sold as "Anti-fat."

Extractum Fuci Vesiculosi.

Dose.—3 to 8 grains before meals, conveniently given in 4-grain pills, with althæa. It is exhausted by a semi-alcoholic menstruum.

Extractum Fuci Vesiculosi Liquidum.

Dose.—1 or 2 drachms before meals.

Combined with liquor potassæ, reduced the fat of a lad who had suddenly become very corpulent.—Pr. xvi.312.

The extract, in 4-grain doses three times a day, given to lessen fat, with good results.—B.M.J. i./79,881.

Extract given with good results; does not produce dyspepsia or diarrhœa.—B.M.J. i./79,960.

Pills, 4 grains in each, three times a day, given for obesity, acted as a diuretic; did not diminish the weight. —B.M.J. ii./79,315.

A lady lost 20 lb. in 9 weeks when taking the liquid extract; and a gentleman 8 lb. in 6 weeks; another 8 lb. in 3 weeks, without bad results.—B.M.J. ii./79, 482.

GELSEMIUM.

Syn. GELSEMINUM (*Off.*).

The dried rhizome and rootlets of "yellow jasmine" —*Gelsemium nitidum* (*G. sempervirens*, Aiton)—imported from the United States, must be distinguished from the yellow jasmine cultivated here, which is a species of *Jasminum*. Gelsemium is said to have febrifuge properties, as it lowers the pulse and depresses the nervous system. It has been much used in acute and rheumatic neuralgia, and toothache. It is a powerful paralyzer, as well as tetanizer, and respiratory poison. Large doses contract the pupil and cause giddiness and diplopia. The first principle, Gelsemine, obtained from it, consisted of at least two alkaloids combined with gelsemic acid.

Gelsemina, Gelsemine (Pure Alkaloid).

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain. A yellowish-white micro-crystalline powder, with a bitterish taste, odourless, sparingly soluble in water, easily soluble in alcohol, ether, and dilute acids. This forms crystalline salts, but appears to be devoid of mydriatic properties, and to be less toxic than Gelseminine, another alkaloid, the Hydrochlorate of which dilates the pupil, but has not as yet been crystallized.

Liquor Gelsemininæ Hydrochloratis.

Hydrochlorate of Gelseminine 1, Water 60.

This solution is recommended for quickly dilating the pupil previous to ophthalmoscopic examination. The maximum dilatation occurs in 50 to 70 minutes, and, as its action is not so prolonged as that of atropine, the inconvenience of a dilated pupil more rapidly subsides. —L. i./77,832; B.M.J. ii./79,362.

Ophthalmic discs contain $\frac{1}{500}$ grain Gelseminine combined with gelatine.

Gelseminæ Hydrochloras, Gelsemine Hydrochlorate. *Dose.*—$\frac{1}{60}$ to $\frac{1}{20}$ grain.—See p. 205.

In white, granular crystals, freely soluble in water.

Gelsemin. *Dose.*—$\frac{1}{2}$ to 2 grains in a pill, with spirit and glycerine.

The powdered alcoholic extractive of a pale brown colour obtained from Gelsemium root. Useful in neuralgia and as an hypnotic. *Must be distinguished from the alkaloids.*

Case of severe toxic symptoms following $\frac{1}{10}$ grain gelsemine hydrochlorate, given instead of gelsemin. B.M.J. i./89, 355.

Extractum Gelsemii Alcoholicum (*Off.*).

The powdered drug is percolated with rectified spirit, displaced with water, and the tincture evaporated to an extract. Is intended as the official equivalent of Gelsemin (see above). *Dose.*—$\frac{1}{2}$ to 2 grains.

Pilula Butyl-Chloral cum Gelsemina.—See p. 86.

Tinctura Gelsemii (*Off.*).

Gelsemium Root 1 ounce, Proof Spirit 8 ounces.

Dose.—5 to 30 minims, often given in combination with bromide of ammonium or potassium for neuralgia. The tincture has a pale brown colour and a fluorescent surface.

Neuralgia of face and jaws associated with carious teeth—15 minims of the tincture every 6 hours rarely fails to give relief.—Pr. xv.115; L.i./73,731; B. and F.M.C.R. lvii.474.

Physiological effects, experiments and investigations of, &c.; is an antidote to strychnine.—L. ii./75,907;

L. i./76,82,124,415,489,561,661,732; L. ii./76,569; L. i./78,858,892,953.

Dilates the os uteri in the non-puerperal state.—Pr. xviii.131. Also during labour.—M.R. 1879,186.

Checks the hectic of consumption.—Pr. xxiii.375.

Dilates the pupil, used locally, whilst the internal use contracts it. Used with decided success in neuralgia of the dental nerves, even when the teeth are carious.—R.

Relieves maxillary neuralgia, but leaves frontal unaffected; 20 minims of tincture for a dose, repeat in 1½ or two hours. If a third dose is required, its use is contra-indicated.—L. ii./75,660.

In neuralgia of the fifth pair of nerves 20 minims every half-hour up to three doses. Specially useful in rheumatic neuralgia of the gums.—Br. ii./79,xxiv.

Death from 2 ounces of tincture.—L. i./82,74.

Case of traumatic tetanus treated by Gelsemium with recovery.—B.M.J. ii./82,1245; B.M.J. i./83,9.

Diplopia and ptosis may be caused by large doses.—B.M.J. ii./83,323.

Paralysis of muscles and dilatation of pupils after taking 10 minims of tincture every 3 hours during a day, and about 80 minims during the night. Treated by strychnine hypodermically ($\frac{1}{120}$ grain repeated).—B.M.J. ii./91,644; Pr. xlviii.49.

Nitroglycerine a rapid and perfect antidote.—M.P.C. i./86, 493; B.M.J. ii./91,724.

GINGERIN.

Dose.—¼ to 1 grain, in a pill or much diluted with spirit.

In commerce this is the crude liquid oleo-resin obtained from ginger, the rhizome of *Zingiber officinale*. It has the colour and consistence of treacle, with an aromatic and very pungent taste. Is a useful addition to purgative pills as a corrective to prevent them griping.

Tinctura Carminativa, B.P.C.

Cardamom Seeds, bruised, 600 grains, Stronger Tincture of Ginger 1¼ ounces, Oil of Cinnamon 100 minims, Oil of Caraway 100 minims, Oil of Clove 100 minims. Macerate the cardamoms in 15 ounces of Rectified Spirit for a week, decant, express, and dissolve the oils in the mixed tinctures, making up to one pint with Rectified Spirit. *Dose.*—2 to 10 minims.

Glonoin, Solution of.—See p. 289.

Glusidum.—See p. 359.

GLYCERINUM.

Glycerine (*Off.*).

Dose.—10 minims to 2 drachms.

Preparations—Official.

Glycerinum Acidi Carbolici	1 to 4
Glycerinum Acidi Gallici (by water bath)...	1 to 4
Glycerinum Acidi Tannici (by water bath)	1 to 4
Glycerinum Aluminis	1 to 5
Glycerinum Amyli (heated)	1 to Glycerine 5, Water 3
Glycerinum Boracis ...	1 to Glycerine 4, Water 2
Glycerinum Plumbi Subacetatis.—See p. 209.	
Glycerinum Tragacanthæ.—See p, 397.	

Stronger solutions of carbolic and tannic acids are sometimes preferred. As a throat pigment, and for uterine application, that of tannic acid may be used double the above strength—1 to 2 of Glycerine (*Pigmentum Acidi Tannici, G.H*). Glycerine of borax is not a mere solution; it has an acid reaction, and when mixed with an alkaline carbonate evolves carbonic acid; it is useful in infantile diarrhœa, in doses of 20 minims, repeated according to age.—L. ii./89,739.

Glycerinum Aluminis is a useful astringent pigment in chronic pharyngitis; is less disagreeable than tannin.—B.M.J. i./85,178.

Glycerinum Amyli, containing 1 in 1000 of corrosive sublimate, recommended as a non-irritating absorbent dressing for wounds.—B.M.J. ii./88,663; Th. Gaz., Dec. 1888,844.

Half an ounce of Glycerine alone, or with one-third part of water added, forms a useful enema for constipation.—L. i./88,38. **Suppositories** (see page 212).

Two drachms injected into the rectum lessens the size of piles. B.M.J. i./89,241.

Injections of two drachms also useful in infantile diarrhœa. Pr. xli.418; P.J. 1888,507.

Nitroglycerine.—See p. 287.

Boroglyceride.—See Acidum Boricum, p. 6.

Gelato-Glycerine, T.H.

Gelatine 5, Water 6, dissolve, add Glycerine (by weight) 6, and evaporate to produce 15. Used as a base for nasal and urethral bougies. Is firmer than Glyco-Gelatine.

Glycerine Jelly, for the Hands.

Gelatine 140 grains, Rose Water 6 ounces; soak a few minutes, and heat in a water-bath to dissolve; add, when cool but still fluid, White of Egg ¾ ounce. Heat to coagulate completely, and add Glycerine 6 ounces, Salicylic Acid 12 grains. Mix well, filter through a hot-water funnel, and bottle while warm. A harder jelly, for microscopic purposes, is prepared in a similar manner.

Glycerinum Acidi Borici.—See p. 4.

Glycerinum Aluminis et Acidi Tannici.

Potassium Alum (free from iron), in powder, 1 ounce, Glycerine 6 ounces. Heat to dissolve, and add Tannic Acid 1 ounce.

This forms a solution which is a very astringent throat pigment; has the advantages of a gargle without destroying the appetite. An ounce to a pint of tepid water forms a useful astringent vaginal injection.

Glycerinum Belladonnæ.—See Belladonna, p. 79.

Glycerinum Bismuthi Nitratis.

Nitrate of Bismuth, in crystals 60 grains (true nitrate), Glycerine 1 ounce. Dissolve without heat. Used as stimulant application in eczema.—P.J. 1874,389,470 484,508.

Glycerinum cum Aqua Rosæ.

Glycerine 2 ounces, Rose Water, prepared with Otto, 3 ounces. Mix. An agreeable emollient for the skin.

Glycerinum Ferri Dialysati.—See p. 199.

Glycerinum Hydrargyri Perchloridi contains ⅔ grain in 1 minim.—See p. 221.

Glycerinum Iodi.—See Iodum, p. 247.

Iodo-Glycerine Solution.—See Iodum, p. 247.

Glycerinum Plumbi Subacetatis (*Off.*).

Acetate of Lead 5 ounces, Oxide of Lead, in powder, 3½ ounces, Glycerine 20 ounces, Distilled Water 12 ounces. Mix together, and boil for a quarter of an hour; then filter and evaporate to one pint. This is the same strength as Goulard's Extract—Liquor Plumbi Subacetatis, B.P., with glycerine for the solvent in place of water; it keeps much better than and does not deposit like the latter.—P.J. 1876,881.

This pigment is useful as an astringent and sedative in cases of chronic eczema. It should first be applied diluted 1 part with about 7 of glycerine, and the strength gradually increased; it desiccates the eruption without producing a hard crust. It may also be diluted with four parts of milk as a lotion for eczema, but this Lotion,

Lotio Plumbi cum Lacte is generally made with liquor plumbi subacetatis, 1 or 2 drachms to the ounce of milk, with a little Eau de Cologne added.—Br. ii./82,225.

Liquor (or Lotio) Plumbi Lactatis, West. H., has 1 part of Solution of Subacetate of Lead to 15 of Milk, but it is more frequently used about 1 to 9.

The glycerole has also been found useful, in some uterine affections, applied on absorbent wool, diluted as above.

Unguentum Glycerini Plumbi Subacetatis (*Off.*).

Glycerine of Subacetate of Lead 4½ ounces, Soft Paraffin 18 ounces, Hard Paraffin 6 ounces. Melt the paraffins together, add the glycerine of lead, and stir till cold. This preparation is equivalent to the old Goulard's cerate; the latter is prone to become rancid, whereas the above will keep indefinitely. It is found a most useful application in chronic eczema, ulcerated legs, &c. It can be kept constantly applied on lint or rag, as it does not become absorbed by the dressing, or stick to the sore, but comes off clean on removing the lint. It is useful also in tinea tarsi.

Unguentum Zinci Compositum, R.O.H., Ointment of Zinc, Ointment of Glycerine of Subacetate of Lead, of each equal parts. Rub well together.

Glycerinum Resorcin, G.H.—See p. 355.

Glycerinum Tragacanthæ (*Off.*).—See Tragacantha, p. 397.

Glyco-gelatine, T.H.

Refined Gelatine 1 ounce, Glycerine (by weight) 2½ ounces, Ammoniacal Solution of Carmine *q.s.*, Orange

Flower Water 2½ ounces. Soak the gelatine in the water for two hours, then heat in a water-bath till dissolved, add the glycerine, and stir well together. Let the mixture cool, and when nearly cold add the carmine solution, mix till uniformly coloured, and set aside to solidify.

Glyco-gelatine affords a ready method of prescribing lozenges to meet the requirements of individual cases; one ounce of the mass will make twenty-four pastils; it is medicated by melting in a water-bath, and the medicament added; or this, if insoluble, is first rubbed with a little glycerine, and then mixed with the hot basis, and cooled by pouring into an oiled tray, and, when solidified, cut into the required number of pastils. Pastils are specially suited to cases of inflammation of the tongue or palate, and their gelatinous nature gives much relief in dryness of the throat. The following list may be kept prepared:—

Pastillus	Acidi Borici, T.H. ...	gr.2
,,	Acidi Carbolici, T.H. ...	gr.½
,,	Aconiti Tinct.	m.i.
,,	Ammonii Chloridi, T.H.	gr.2
,,	Bismuthi Carbonatis, T.H.	gr.3
,,	Bismuthi Carbonatis, T.H. Morphinæ Acetatis ...	gr.3 gr.$\frac{1}{40}$
,,	Bismuthi Carbonatis, T.H. Potassii Chloratis ...	gr.3 gr.2
,,	Cascara Sagrada ...	gr.2½
,,	Cocæ Extracti	gr.2½
,,	Cocainæ Hydrochloratis	gr.$\frac{1}{20}$
,,	Cocainæ gr.$\frac{1}{30}$ et Morphinæ	gr.$\frac{1}{80}$
,,	Codeinæ	gr. $\frac{1}{8}$
,,	Hydrargyri Perchloridi ... Potassii Chloratis ...	gr.$\frac{1}{30}$ gr.3
,,	Iodoformi, T.H. ...	gr.1
	(more or less if prescribed.)	
,,	Menthol...	gr.$\frac{1}{10}$
,,	Morphinæ Acetatis ...	gr.$\frac{1}{40}$
,,	Potassii Chloratis ...	gr.2
,,	Sulphuris Precipitati ... Potassii Tartratis Acidæ	gr.5 gr.1
,,	Thymol	gr.$\frac{1}{32}$

Mass for Pessaries.

Immerse Gelatine 1, in Water 4, for a few seconds, drain, and in half an hour add Glycerine, by weight, 5. Dissolve in a water-bath; should weigh six.

Suppositoria Glycerini. Glycerine Suppositories. (*Off.*). Soak Gelatine, ½ ounce, in Distilled Water, *q.s.* for a minute, and pour away the excess; then add Glycerine, by weight, 2½ ounces, dissolve in a water-bath, and evaporate to 1,560 grains. Pour into moulds of 30, 60, or 120 grain-measures, or other capacities as required. Contain 70 per cent. by weight of Glycerine.

GLYCYRRHIZA.

Liquorice (*Off.*).

Dose of root, in powder.—5 to 20 grains or more.

Extractum Glycyrrhizæ (*Off.*).

Dose.—5 to 60 grains.

Extractum Glycyrrhizæ Liquidum (*Off.*).

A fluid formed of the above contains ⅙ of its volume of rectified spirit. *Dose.*—20 minims to 1 drachm.

Glycyrrhizinum Ammoniatum.—Ammoniated Glycyrrhizin, U.S. *Dose.*—½ to 5 grains, or more.

Glycyrrhizin, the sweet principle of liquorice, is precipitated, from solution in water, by acids. Being contained in the root as an ammoniacal compound, it forms garnet-coloured, shining scales when precipitated, purified, recombined with ammonia, and dried on glass plates; these possess the persistent sweet taste of liquorice. A grain will flavour 6 ounces of water.—P.J. 1875,53.

The before-mentioned preparations of liquorice are useful for covering the taste of nauseous drugs given in a liquid form, such as chloride of ammonium, sulphate of magnesium, sulphate of quinine, ipecacuanha, and aloes. In tincture of aloes, liquorice effectually disguises the bitter taste; it is also added, for the same purpose, to Mistura Sennæ Composita, Decoctum Aloes Compositum, Confectio Sennæ, and as a demulcent is used in Infusum Lini.

In addition to the official extracts, dried extracts are largely imported from Italy and Spain, known as Liquorice Juice or Spanish Liquorice, that bearing the stamp of Solazzi being most prized. There are also prepared in England, Liquorice Lozenges, known as

Pontefract Cakes, and the same substance in sticks about the thickness of a quill known as Pipe Liquorice. They are demulcent and useful in allaying tickling coughs.

Trochisci Ammonii Chloridi cum Glycyrrhiza.—See p. 54.

Pulvis Glycyrrhizæ Compositus (*Off.*).

Syn. PULVIS LIQUIRITIÆ COMPOSITUS, P.G., PULVIS PECTORALIS (*Kurellæ*).

Senna and Liquorice of each 2, Fennel 1, Sublimed Sulphur 1, White Sugar 6. Mix.

Dose.—30 grains to a drachm or more, mixed with water or milk, taken early in the morning, is a mild and agreeable laxative. For constipation and hepatic disease, it is pleasant to take, and effectual without catharsis.—Pr. viii.276.

Suggested to substitute anise for fennel, and to add one-fourth as much ginger.—L. ii./86,627.

GOKHRU.

Syn. GOKEROO (*Hindi*).

The fruit of *Pedalium Murex.* It is employed in India as a remedy for nocturnal seminal emissions, incontinence of urine, and impotence.—Pr. xvii.381.

The capsule is very prickly, and both it and the seeds are rich in mucilaginous matter.

Infusum Gokhru.

Gokhru Fruit 1 ounce, Boiling Distilled Water 1 pint. Macerate 2 hours and strain, pouring over the contents of the strainer water *q.s.* to produce 1 pint, which forms a daily dose, and should be freshly prepared.

The fruit of **Tribulus terrestris**, which somewhat resembles the above, is also known by the name of Gokhru in India.

GOSSYPIUM.

Cotton Wool (*Off.*).

Beside **Pyroxylin**, Gun Cotton (*Off.*)—the following preparations of cotton are in use:—

Gossypium Absorbens, now the *official* **Cotton Wool**, is much employed as a wound-dressing. It is prepared by alternately treating bleached cotton with diluted hydrochloric acid and solution of soda and well washing afterwards. A sheet of this wool between layers of gauze is sold as **Absorbent Gauze and Cotton Wool Tissue**; the same made into **Balls** is recommended in place of sponges.—L. i./83,1003.

Gossypium Acidi Carbolici.—See p. 9.

Gossypium Acidi Salicylici, 4 and 10 per cent. —See Acidum Salicylicum, p. 28.

Gossypium Iodoformi, 10 and 50 per cent.—See Iodoform, p. 241.

In T.H. the following are recommended for aural affections:—Gossypium Acidi Borici, containing 50 per cent.; Gossypium Acidi Tannici, 33 per cent.; Gossypium Aluminis, 30 per cent.; Gossypium Camphoræ, 33 per cent.; Gossypium Cubebæ; Gossypium Ferri Perchloridi; Gossypium Hamamelidis; Gossypium Iodi; Gossypium Iodoformi, 50 per cent.; Gossypium Krameriæ; Gossypium Opii. Gossypium Menthol, see p. 269.

Extractum Gossypii Radicis.—A semi-alcoholic preparation. *Dose*—1 to 4 grains, in pill.

Pilula Gossypii Composita.

Extract of Cotton Root, Extract of Hydrastis, Ergotin, of each 1 grain. *Dose*—One, three or four times a day. Useful for congestive dysmenorrhœa.

Tinctura Gossypii Radicis (Squire).

Dried bark of root of cotton plant 1, proof spirit 4.

Dose.—1 drachm 3 times a day as an emmenagogue and parturient.

An infusion is often preferable to ergot in labour.—L. ii./84,558.

GRINDELIA.

Gum Plant.

The dried herbs *Grindelia robusta* and *G. squarrosa* —the latter is most commonly used—form the Californian remedy for asthma. In America, this drug has been found very useful in reducing the frequency and violence of the spasmodic attacks which occur in asthma, whooping-cough, and bronchitis.—B.M.J.ii./87,1356.

The involucre, and often the leaves, are coated with a glutinous oleo-resin.

Extractum Grindeliæ (Alcoholic).

Dose.—2 to 3 grains in a pill with lycopodium, three times a day.—R.

Extractum Grindeliæ Liquidum, B.P.C.

1 = 1 of herb, with S.V.R. as a solvent.

Dose.—10 to 30 minims at the onset of a paroxysm of asthma, and repeated every half-hour or hour, in sweetened water or milk, else the resin separates and sticks to the vessel. Useful for whooping-cough, 10 minims every 2 hours.—P.J. 1878,582; L. i./90,565.

Mistura Grindeliæ, G.H.

Liquid Extract of Grindelia 30 minims, Liquid Extract of Liquorice 1 drachm, Mucilage Mixture (p. 63) to 1 ounce.

Useful in whooping-cough and bronchitis and of singular efficacy in asthma. Doses of half a teaspoonful afforded almost instantaneous relief in several cases occurring in aged persons.—Stillé and Maisch.

Note on its use in heart diseases, it slows and regulates the pulsations.—Ed M.J.1888,80; P.J.1886,919.

Guaiacol.—See p. 171.

GUARANA.

Guarana.

Dose.—10 to 60 grains in powder, or infused in a cup of boiling water.

The seeds of *Paullinia sorbilis*, roasted and moistened with water, made into a hard paste, rolled into cylinders, and dried. Imported from Brazil. The drug contains about 5 per cent. of a crystalline alkaloid **Guaranine,** which is identical with caffeine, together with tannin, gum, &c. Guarana has been particularly recommended for sick-headache. Guaranine may be taken as caffeine. *Dose.*—½ to 5 grains, or more.

Elixir Guaranæ, B.P.C.

Guarana, in No. 60 powder, 4 ounces, Light Magnesia ½ ounce, Oil of Cinnamon 6 minims, Syrup 2 ounces, Proof Spirit, a sufficient quantity.

Mix intimately the powders, and moisten them with three ounces of proof spirit. After twenty-four hours' maceration, mix with eight ounces of coarse sand, and pack in a percolator; pass through proof spirit until sixteen ounces are obtained, then transfer the mass to a press-bag and apply pressure. To the percolate add the syrup and oil of cinnamon, and make up to one pint by addition of the expressed liquid, previously reduced by evaporation if necessary.

Dose.—½ to 2 drachms.

Tinctura Guaranæ. *Dose.*—½ to 1 drachm.

Macerate Guarana 1 ounce, in proof spirit, *q.s.* to produce 4 ounces.

Useful in sick-headache.—B.M.J. i./72,421.

Contains double as much caffeine as tea, and five times as much as coffee; is a nervine tonic.—L. ii./70,581.

For sick-headache, 30 to 60 grains is a certain remedy. Useful also in diarrhœa and dysentery.—L. ii./72,313,507; Pr. xlv. 60; Th. Gaz. 1890,287.

HÆMATOXYLUM.

Logwood (*Off.*).

From unfermented Logwood are prepared:—

Extractum Hæmatoxyli Liquidum, B.P.C.

Unfermented logwood, in No. 16 powder	20 ounces.
Distilled water	6 pints.

Boil the logwood with the water in three successive portions for half-an-hour each; mix the liquors, strain, and evaporate on a water bath or in vacuo to one pint. Set aside for 4 days and decant from any sediment.

Dose.—½ to 2 drachms. Contains the hæmatoxylin and all the natural astringent properties of the wood unchanged.—P.J. 1887, 285.

Hæmatoxylin. Usually met with in yellowish granular crystals, slowly and sparingly soluble in water, easily soluble in alcohol. Is much used for staining histological specimens.—See p. 425.

HAMAMELIDIS CORTEX ET FOLIA.

Witch Hazel Bark and Leaves (*Off.*).

The bark and leaves of *Hamamelis virginica*, Witch Hazel, or Winter Bloom, imported from the United States of America, possess powerful astringent properties, and are used for checking hæmorrhages and excessive mucous discharges. They form the basis of the American specialties—Pond's Extract (*dose*, 10 drops half-hourly), and Hazeline (*dose*, ½ to 3 drachms).

Extractum Hamamelidis Destillatum.

Syn. SPIRITUS HAMAMELIDIS.

Dose.—½ to 3 drachms, and used externally. A weak alcoholic distillate, equivalent to the preceding preparations. Useful in hæmorrhoids.

Extractum Hamamelidis Liquidum (*Off.*), **U.S.**

Hamamelis Leaves, in No. 40 powder, are percolated with a mixture of Rectified Spirit 1 and Distilled Water 2. The first portion of percolate is set aside, and the other after concentration is mixed with it, so that 1 = 1 of leaves. *Dose.*—2 to 5 minims.

Hamamelin.—*Syn.* **Hamamelidin.**

Dose.—¼ to 2 grains in a pill, with mucilage of acacia. It is the powdered extractive from the above of a purplish-brown colour. A suppository of 1 to 3 grains with cacao butter is useful for piles.

Tinctura Hamamelidis (*Off.*).

Bark, in No. 20 powder 1, Proof Spirit *q.s.* to 10.
Dose.—5 to 60 minims.

A valuable hæmostatic, very serviceable in hæmoptysis, hæmorrhoids, menorrhagia, in fact in all passive hæmorrhage, and what is known as the hæmorrhagic diathesis. As an injection for bleeding piles, 1 drachm of the tincture in 3 ounces of cold water should be given as an enema, and retained, at bedtime or before breakfast, every day; or the following ointment applied locally.—R.

A lotion of 1 or 2 drachms with water to an ounce, is a useful application to bruises and small wounds.

Unguentum Hamamelidis (*Off.*).

Liquid Extract of Hamamelis 1, Simple Ointment 9. Used as an ointment for piles.

Witch Hazel plasters are also made in rubber combination for covering varicose veins.

Letters on its uses and chemical constituents.—L. ii./79,303,337,486.

Hæmorrhage from bowel, an ounce of hazeline used as a rectal injection with success.—B.M.J. i./85,227.

Menorrhagia is controlled by 1 drachm of hazeline three times a day.—Pr. xxxiii.141.

In menorrhagia, given without obvious advantage.—B.M.J. ii./84,810.

Report of an investigation committee of the Association.—B.M.J. i./87,795.

Liquid preparations useful for hæmorrhoids, applied on sheep's wool.—B.M.J. i./81,965; i./92,542; L. i./92,583; Pr. xlviii. 378.

HYDRARGYRUM.

Mercury (*Off.*).

Injectio Hydrargyri Hypodermica. — *Syn.* **Grey Oil.**

Mercury 3, Lanolin 3, Olive Oil 4.

In Vienna injected hypodermically in doses of 10 to 15 centigrammes for syphilis.—B.M.J. i./88,1296.

Preferable formula:—Mercury 39, Mercurial Ointment 2, Vaseline Oil 59. *Dose.*—1 to 2 grains daily.

This and corrosive sublimate the most commended for mercurial injection;—followed by least pain and reaction.—B.M.J.E. ii./91,101; Th.Gaz. 1891,780.

Lanolinum Hydrargyri. —See p. 261.

Plaster Mulls of **Mercury** are spread containing in $\frac{1}{5}$ square metre (see p. 421) 20 grammes of the metal; also **Mercury** in combination with **Carbolic Acid** 7½ grammes, or **Oxide of Zinc** 20 grammes. Likewise Mercury 20, Oxide of Zinc 10, Carbolic Acid 10, Perchloride of Mercury 2, grammes. Plaster Mulls of **Ammoniated Mercury** (White Precipitate) contain 10 grammes.

Hydrargyri Benzoas. Mercuric Benzoate.

A white crystalline powder, insoluble in cold, slightly soluble in warm water. Recommended for hypodermic injection in solution with chloride of sodium and cocaine; this should be freshly prepared.—B.M.J. i./90,1087; L. ii./91,505.

Hydrargyri Carbolas. Carbolate of Mercury, Phenol Mercury. *Dose.*—½ to 2 grains in divided doses daily. A whitish amorphous powder, obtained by double decomposition of mercuric chloride and an alcoholic solution of carbolic acid in caustic potash. In pills, ½ grain each. *Dose.*—2 to 6 daily.—L. i./87,943; ii./87,277; P.J. 1887,685.

An orange coloured basic salt is also prepared, but the above neutral salt is preferred.

Hydrargyri Cyanidum, Cyanide of Mercury.
Syn. BICYANIDE OF MERCURY.
Dose.—$\frac{1}{20}$ to $\frac{1}{4}$ grain.

Is in anhydrous, white or colourless, prismatic crystals, soluble 1 in 8 of water. It is not decomposed by alkalies; is poisonous, and has a nauseous metallic taste. It is used as a lotion to syphilitic sores, and given in pills of $\frac{1}{16}$ or $\frac{1}{12}$ grain twice daily. Used in diphtheria, $\frac{1}{250}$ grain frequently, with $\frac{1}{2}$ minim Tincture of Aconite, in honey, using also a gargle, 1 in 10,000.—L. i./88,591, 1063.

Mercuro-Zinc Cyanide. A white powder obtained by precipitation from a cold saturated solution of the cyanide of mercury and potassium by adding a cold saturated solution of sulphate of zinc in equi-molecular proportions, or by adding in similar solutions mercuric chloride to zinc and potassium cyanide. In this powder the two cyanides are combined in the proportion of 4 molecules of zinc cyanide and 1 of mercuric cyanide; of the latter it should contain 40 per cent.

Is recommended by Sir Joseph Lister, as an unirritating antiseptic, and to impregnate gauze, also to form ointments for eczema and other skin affections, in place of oxide of zinc.—P.J. 1890,653; 1892,769; L. i./90, 415; B.M.J. i./90,441.

Eighteen months' experience satisfactory.—B.M.J. ii./90,379.

Mercuro-Zinc Cyanide Gauze. In 6-yard pieces. Contains 3 per cent. by weight of the above, and is tinted with rosolane (hydrochloride of mauveïne). Before use it is damped with carbolic lotion, 1 in 40 (sublimate solution is not compatible with it).—L.ii./89,943; i./90,1; B.M.J. ii./89,1028; i./90,1; P.J. 1889,389. Use in hepatic abscess.—B.M.J. i./90.61.

Hydrargyri Iodidum Rubrum (*Off.*), **Red Iodide of Mercury, Mercuric Iodide.** *Dose.*—$\frac{1}{32}$ to $\frac{1}{8}$ grain. Soluble in solutions of other iodides, forming double salts; also 1 in 25 of castor oil; or 100 parts of the latter will dissolve 8 of this iodide with 5 of perchloride of mercury. —P.J. 1885,327; B.M.J. i./87,789. Is a powerful antiseptic.—B.M.J. ii./87,78; L. ii./87,1163.

In solution with sodic chloride is valuable as an injection for gonorrhœa,—B.M.J. ii./87,754; and as a pigment for throat in scarlatina and diphtheria.—B.M.J. ii./87,508,613,754. Also as spray.—B.M.J. ii.89,1276; ii./91,834.

Of great service, in solution with iodide of potassium and chloral, in infantile diarrhœa; rapidly diffused and eliminated.—L. ii./90,1325.

Injectio Hydrargyri Iodidi Rubri Hypodermica.—(Ragazzoni). *Dose.*—2 to 6 minims. Mercuric Iodide 1 grain, Sodium Iodide *q.s.*, Water to 64 minims.

Liquor Arsenii et Hydrargyri Iodidi.—See p. 67.

Pilula Arsenii et Hydrargyri Iodidi. *Dose.*—1 or 2, two or three times a day.

Iodide of Arsenium, Red Iodide of Mercury, of each 1 grain, Distilled Water *q.s.* to dissolve. Sugar *q.s.* to make 12 two-grain pills. May be combined with 2 grains of Iodide of Iron pill.

Hydrargyri et Potassii Iodidum, Potassio-Mercuric Iodide.

Dose.—$\frac{1}{16}$ to $\frac{1}{4}$ grain, in pill or mixture.

In yellow crystalline prisms; has been administered for syphilis. Is formed in solution when the perchloride is given in excess of solution of iodide of potassium. The crystals are decomposed by water, depositing half the mercuric iodide.

Pilula Hydrargyri Iodidi Rubri ($\frac{1}{5}$ gr.) et Potassii Iodidi (4 gr.).

Dose.—1, two or three times a day.

Hydrargyri Iodidum Viride. (B.P. 1867.)

Green Iodide of Mercury, Mercurous Iodide.

Dose.—$\frac{1}{6}$ to 1 grain. Pills contain $\frac{1}{6}$ and $\frac{1}{3}$ grain.

This salt, though not now official, is the one most largely prescribed for syphilis. It should be kept from the light, be of a green colour, and contain slight excess of mercury; otherwise, as writer has shown, it is unstable and dangerous.—P.J. 1890,259; B.M.J. ii./90,642.

Hydrargyri Oleatum.—See p. 295.

Hydrargyri Perchloridum (*Off.*); **Hydrargyri Chloridum Corrosivum, U.S.**; Corrosive Sublimate.

Dose.—$\frac{1}{16}$ or less, to $\frac{1}{8}$, increased to $\frac{1}{4}$ grain.

The official preparations are Lotio Hydrargyri Flava

(18 grains to lime water 10 ounces), and Liquor Hydrargyri Perchloridi, which has Perchloride of Mercury and Chloride of Ammonium of each 1 grain in 2 ounces.* For lotion 1 in 2,000 to 4,000 or more of water.

The researches of Koch and others having proved this corrosive poison to be the most powerful antiseptic, solutions of it have of late been much used as surgical dressings; it is soluble 1 in 16 of water, 1 in 4 of rectified spirit, 2 in 3 of glycerine by weight, dissolved without heat; heat reduces the salt to calomel (?). A solution 1 in 1,000 of water, or preferably an equivalent quantity of the **Glycerine Solution** (Sublimate, 2; Glycerine by weight, 3) one fluid drachm, which contains 40 grains of the sublimate, to 4 pints, is recommended as a lotion.—B.M.J. i./84,1018. As dressings, lint, absorbent wool, gauze, or **Wood Wool** (see p. 335) may be impregnated with ½ per cent. of each, corrosive sublimate and glycerine.—L. i./84,346; B.M.J. i./84,364; B.M.J. ii./84,803; L. ii./84,723,740,801,899. Wood wool enclosed in sublimate gauze, both charged with ¼ °/o of sublimate, the best artificial sponges.—B.M.J. i./91, 448.

Ophthalmic discs contain $\frac{1}{100,000}$ grain **Perchloride of Mercury** combined with gelatine.

Sublimate Lotiforms consist of absorbent wool, charged with sublimate, enclosed in muslin, and coloured with magenta. One in a pint of water forms a lotion of 1 in 5,000. These are less liable to cause poisoning by carelessness than the following preparations.

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* The writer has shown this is not a mere solution of the Perchloride; a double salt is formed, ammonio-mercuric chloride or *Sal Alembroth*, with an excess of chloride of ammonium present. The solution, if prepared with common water (containing carbonate of lime) in place of distilled, or if even diluted with common water, lets fall a white precipitate, if diluted much scarcely a trace of mercury is left in solution. It is better to use a simple solution of the Perchloride of the same strength, in common or distilled water it forms a stable solution.—P.J. 1870,544. **Van Swieten's Solution** (Codex) consists of one part of perchloride of mercury in 900 of water and 100 of alcohol; the B.P. *Liquor* was intended to supplant this. Exposure to sunlight reduces a solution of sublimate. Acidulating with hydrochloric or tartaric acid is said to prevent the precipitation of insoluble albuminate of mercury, and thus to increase and render its antiseptic power continuous.—B.M.J. i./88,148; P.J. 1889,841.

Sublimate Pastils are made of two sizes, combined with sodium chloride, and coloured blue. They are convenient for surgical purposes, the larger making 20 ounces, and the smaller 10 ounces of lotion, 1 in 500. This should be further diluted with three or more parts of warm water before use. These solutions do not precipitate, and are preferable to solutions with ammonium chloride.—L. ii./90,72; P.J. 1890,83.

For eye lotion, 1 grain in 8 ounces.—R.O.H.

For gonorrhœa and gleet, 1 to 2 gr. in 8 ounces recommended.—Ed.M.J. 1884,756; 1890,386; M.P.C.i./84, 194; B.M.J. i./90,752.

For ear discharges, syringing with 1 in 10,000 is antiseptic.—Edin.Med.Jour.1884,665. This solution is recommended as a pigment in diphtheria.—M.P.C. i./84,840. Sixty cases of diphtheria treated with perchloride of mercury; addition of Fowler's solution beneficial.—B.M.J. i./91,14,223.

Summary of antiseptic uses.—1 in 10,000 destroys micrococci and bacilli, 1 in 1,000 destroys their spores; this may therefore be used for infected linen, the walls and floors of infected rooms, the hands of surgeons and gynæcologists, and as a lotion to superficial wounds. For continuous applications, 1 in 10,000 forms an active lotion, and 1 in 500, with the same quantity of permanganate of potassium, is an efficient disinfector of an equal bulk of liquid fæcal infected discharges, if in contact not less than two hours.—L. i./85,721.

Risk of poisonous effects from vaginal injections of 1 in 1,000; notice the occurrence of diarrhœa.—B.M.J. ii./86,64; i./90,1040; L. ii./86,1131; i./90,715; Pr.xl.286.

Cases of salivation by washing out vagina with 1 in 3,000 lotion.—L. i./85,677; B.J.ME. ii./91,116,128.

Tinea destroyed by solution of 3 grains in an ounce of spirit of nitrous ether.—B.M.J. i./85,434.

In bronchitis with offensive expectoration, $\frac{1}{8}$ grain to 3 ounces of water useful as a spray inhalation.—Pr. xxxiii.731. Successful in phthisis.—L. ii./88,110.

Poisoning by 100 grains, recovery under treatment with emetics and white of egg.—B.M.J. ii./88,720.

Dysentery in India, 5 minims of liquor every four hours given with success.—L. ii./89,901.

Of use in diarrhœa due to fermentation and irritation of the intestines in children; $\frac{1}{80}$ grain frequently.—R.; B.M.J.E. ii./90,23.

Hypodermic injection of 1 in 1,000 solution successful in three cases of anthrax.—B.M.J. ii./90,16; L. ii./91, 658.

Sal Alembroth.—*Syn.* **Ammonio - Mercuric Chloride, Double Chloride of Mercury and Ammonium.**

Contains one molecule of the sublimate combined with two of ammonium chloride, and may be made by mixing solutions of molecular quantities (271 of the former, 107 of the latter), and evaporating; 3 grains contain 2 grains of sublimate. Is in flattened rhombic prisms, soluble in less than its own weight of water. Possesses powerful antiseptic properties, but does not combine with albumen so quickly as the pure sublimate, and therefore is not so irritating to animal tissues. Used to prepare

Alembroth Gauze. In 6-yard pieces; contains 1 per cent. of Sal Alembroth, and is tinted with aniline blue. This is generally damped with carbolic lotion, 1 in 40, before application as a dressing.

Alembroth Wool, contains 2 per cent. Tinted blue.

Alembroth Gauze and Cotton Wool Tissue, contains 2 per cent. Tinted blue. Specially useful for eye cases.

Eucalembroth Gauze. In 6-yard pieces. Each contains 4 drachms Eucalyptus oil, with castor oil, and $\frac{1}{1000}$ of its weight of Sal Alembroth. Tinted with magenta.

Sal Alembroth useful as an intramuscular injection for syphilis; $\frac{1}{3}$ grain in 10 minims of water injected into buttocks once or twice a week, then less frequently. —Pr. xli.60; L. i./88,826.

Hydrargyri Salicylas. *Dose.*—$\frac{1}{4}$ grain in pill. A white powder, slightly soluble in water. Given as an antisyphilitic, and used as a dusting powder or ointment for specific sores. Should not be given in large doses with iodide of potassium.—L. i./89,396; Th. Gaz. 1889,225,391; 1890,406,430; Y.B. 1890, 214.

Hydrargyri Succinimidum, Succinimide or Imido-succinate of Mercury.

A white silky powder, freely soluble in water; does not precipitate albumen or fluids of pleuritic effusion or hydrocele. Recommended as a hypodermic injection in syphilis, in 2 per cent. solution (=1 per cent. of mercury.) Addition of cocaine to diminish pain should not exceed 1 per cent., or precipitation takes place. Is said to preclude the formation of abscesses; is comparatively painless, and does not prevent patients following their vocation. — L. ii./88,734; P.J. 1888,347; Th. Gaz. Nov. 1888,758.

Dose by injection, ⅛ to ¼ grain. A valuable preparation in primary and secondary cases of no great severity, especially in women and children, because of its slight tendency to produce local irritation.—L. ii./90,778.

Hydrargyri Tannas, Tannate of Mercury; Mercurous Tannate.

Dose.—1½ gr. in a pill with syrup and tragacanth. Should it cause diarrhœa in weakly patients add ¾ grain of tannic acid to each, or 1/12 grain of powdered opium.

In dark green, odourless and tasteless powder or scales, containing 50 per cent. of mercury. It is not soluble or materially affected by diluted hydrochloric acid, but easily so by alkalies and their carbonates, separating a magma containing very minute particles of mercury. It is thought that under the influence of the alkaline intestinal juice mercury is thus absorbed through the membrane of the intestines in the same manner as when rubbed into the skin. When taken internally a rapid introduction of mercury into circulation has been observed, it being always found in the urine 24 hours after; yet all disagreeable symptoms so often accompanying the use of mercurials are absent, while the results obtained in various stages of syphilis have been so rapid and favourable as to safely place it by the side of the best mercurials—the ointment included.—L. i./84,723; P.J. 1884,777 B.M.J. i./87,456; L. i./90,619.

Unguentum Hydrargyri Oxidi Flavi.

Syn. Pagenstecher's Ointment.

Yellow Oxide of Mercury 30 grains, Vaseline 1 ounce. Used for inflamed eyelids, &c. It is more frequently employed one-fourth this strength in England.

Injections of 2 grains yellow oxide of mercury suspended in liquid paraffin useful in syphilis.—L.ii./89,757.

Hydrargyri Naphtholacetas. **Mercur-β-Naphthol Acetate.** *Dose.*—½ to 1 grain.

An amorphous odourless white powder, insoluble in the usual solvents, melting to a green oily liquid. Diluted with kieselguhr, or in gauze or salvemull, or triturated with fresh albumen and diluted with water, is useful to promote healing of wounds; it is also a mild antisyphilitic.

Hydrargyri Thymolacetas, Mercury Thymol Acetate. A white microcrystalline powder, soluble in dilute alcohol, insoluble in water. Has been used successfully in syphilis as an intra-muscular injection, 1 in 10 of liquid paraffin, also in pills, in doses of ¾ to 1½ grains.—P.J. 1888,427; 1889,607, 341.

Injections of insoluble mercurials sometimes followed by intestinal disturbances and dysenteric conditions, cough, cyanosis, and back pains.—B.M.J. ii./89,1062.

Hypodermic Injections of Solutions of **Mercuric Oxide,** in combination with **Asparagin** (see p. 68) and with **Formamide** (the amide of formic acid), have been employed, and have the advantage of being aqueous solutions; injections of insoluble mercurials producing risk of pneumonia. —L.i./90,562; ii./90,783; B.M.J.E. i./92,52.

Report on 1573 injections of various mercurials—calomel the most active, grey oil the least. They should only be used in early stages and when rapid action desired; this rapidity of action the only advantage, and is more than balanced by inconveniences.—Th. Gaz. 1890,617.

HYDRASTIS RHIZOMA (*Off.*).

Syn. Golden Seal, Yellow Root, Yellow Puccoon, Orange Root, Indian Dye, Indian Turmeric.

Dose.—10 to 30 grains.

The dried rhizome and rootlets of *Hydrastis canadensis.* The rhizome is about 1½ in. long by ¼ in. thick, externally yellowish-grey, fracture short, waxy, with bright reddish-yellow colour, has slight odour and bitter taste. It possesses tonic stomachic properties, is used in intermittent fevers, and causes uterine contraction. It contains a quantity of berberine (see p. 227), and the alkaloid hydrastine.

Extractum Hydrastis Liquidum. (*Off.*).

Hydrastis in No. 60 powder, with rectified spirit and distilled water in equal volumes as a menstruum, prepared as Extractum Hamamelidis Liquidum.

Dose.—5 to 30 minims; 1=1 of rhizome.

Extractum Hydrastis.—Prepared by evaporation of the above. *Dose.*—2 to 5 grains.

Hydrastina, Hydrastine (an alkaloid).

Dose.—½ to 5 grains, in pill with glycerine of tragacanth, or acidulated solution.

In white prismatic crystals resembling strychnine in appearance, insoluble in water, but soluble in alcohol, chloroform, and ether, taste very bitter. Used in fever cases, especially in typhus.

Has been found to produce uterine action and induce abortion, without danger to mother, injected hypodermically.—L. i./86,991.

Hydrastinæ Hydrochloras.

Dose.—½ to 6 grains.

A crystalline soluble salt; is used in fevers, like the pure alkaloid. **Hydrastinine,** a white crystalline oxidation product of Hydrastine, forms salts, of which **Hydrastininæ Hydrochloras** (in pale citron yellow crystals, soluble 1 in 1 of water) has been used for internal hæmorrhage hypodermically, in dose of ½ to 1½ grains. Useful in menorrhagia and dysmenorrhœa. —L. i./90,712; B.M.J. i./90,1086; Pr. xlv. 373; M.C. May 1890,127; Feb.1892,332; B.M.J.E. i./92,87.

Hydrastinine is an oxidation product of hydrastine, and probably the finally active element in administration. It acts immediately, while other preparations require 12 or 14 days' administration before any decisive effect is produced. *Dose.*—⅜ grain 4 or 5 times daily. No advantage in larger doses.—M.C. Feb. 1892,333.

Hydrastin.—**Eclectic Remedy.**

Dose.—2 to 6 grains, in a pill with glycerine of tragacanth and powdered acacia.

Consists principally of Hydrochlorate of Berberine, with extractive; has a bright yellow colour, and is aperient, cholagogue, stomachic, and tonic; is also used as a dressing to ulcers, acting as an antiseptic. Likewise much used in amenorrhœa, also in gonorrhœa and leucorrhœa.

A tonic and moderately powerful biliary and intestinal stimulant.—Pr. xxiii.337; B.M.J. ii./78,31.

Therapeutic study of its uses: 3 to 6 grains in a pill, followed by effervescing sulphate of sodium, is a useful biliary stimulant.—B.M.J. ii./80,746; Pr. xxvi.121.

In eczema, 5 to 20 grains to an ounce of lard has proved of service.—L. ii./85,87.

Tinctura Hydrastis (*Off.*). *Dose.*—20 to 60 minims.

Hydrastis, in No. 60 powder, 1 to 10 of Proof Spirit.

In gastric catarrh from chronic alcoholism is about the best substitute for the stimulant when this is abandoned. Useful in atonic dyspepsia, habitual constipation due to inaction of the liver, and in general debility it is very efficacious, its action being not unlike that of quinine. It is also employed as an injection for gonorrhœa, 2 drachms to a pint of water used very frequently at first. As a lotion it is employed in chronic inflammation of the mucous membranes, also for cracks and fissures of the nipple.—B.M.J. ii./80,746.

Uterine hæmorrhage from various causes—50 cases treated with fluid extract of hydrastis, 20 drops three times a day, results in two-thirds of the cases very satisfactory.—L. ii./84,208; i./87,391.

Relieves gastric catarrh.—L. ii./86,31.

Has a notable effect in soothing uterine and ovarian pain, and checking uterine hæmorrhage.—L. i./88,868; Ed.M.J.1886,176; 1887,747.

Useful in fibroid tumours; does not cause painful contractions.—B.M.J. ii./88,123.

Local use of hydrastis invariably successful in chronic pharyngitis.—L. i./89,549; Th. Gaz., Feb. 1889,123.

Checks profuse menstruation.—L. ii./88,133; i./89, 42.

Relieves painful menstruation.—L. ii./89,811; B.M.J. ii./89,1063; M.C. May 1890,127.

Given for hæmoptysis in phthisis entirely prevented night sweats.—Ed.M.J., 1891,473.

Berberina, Berberine. *Dose.*—2 to 5 grains.

Although contained in hydrastis and calumba, is obtained principally from the bark of *Berberis vulgaris* and other species of Barberry. It is in bitter, orange yellow, acicular crystals, insoluble in water. It forms with chloroform, ether, and alcohol, crystalline compounds. Its salts, the **Hydrochlorate, Phosphate,** and **Sulphate,** are bright yellow in colour, and soluble in water, the hydrochlorate about 1 in 400, the phosphate 1 in 12, and the sulphate 1 in 150. *Dose* of each.—2 to 6 grains. Given for indigestion, diarrhœa, malaria, and sickness in pregnancy.

HYDROGENII PEROXIDUM.

Hydrogen, Peroxide of.—*Syn.* Hydroxyl, in Aqueous Solution. *Dose.*—½ to 2 drachms.

Solution of Peroxide of Hydrogen may be prepared by adding gradually, hydrated peroxide of barium to diluted sulphuric acid, filtering out the sulphate of barium, and neutralising the liquid with baryta water; on again filtering, a nearly pure solution of Hydroxyl is obtained. A less pure solution may be made by passing CO_2 through water containing, in suspension, hydrated peroxide of barium, and filtering out the carbonate. It is made for medical purposes to contain ten volumes of available oxygen when decomposed—*i.e.*, 1 c.c. will evolve 10 c.c. of oxygen, or 1·45 per cent. of its weight, = 3·04 per cent. of H_2O_2. It is also made commercially two and three times this strength. Peroxide of Hydrogen is produced naturally in many ways, as by the rapid oxidation of some essential oils, oil of turpentine, oil of eucalyptus, &c. It forms the active ingredient in the disinfectant known as Sanitas (see p. 334). The solution possesses disinfecting and bleaching properties (is much used for bleaching ladies' hair to the fashionable colour), has a harsh, bitter taste, is odourless, or nearly so. It has the second atom of oxygen in a very loose state of combination. It readily decomposes, especially in contact with a metallic oxide, such as that of silver or manganese, these if moist, and freshly precipitated, cause oxygen to be briskly evolved from it. Ether restrains this decomposition, and this fact is made use of for the production of

Ozonic Ether. *Dose.*—½ to 1 drachm.

Ether containing in solution peroxide of hydrogen of

30-volume strength with some alcohol. It is miscible with water, possesses properties similar to the above, and is more stable. In conjunction with tincture of guaiacum, it is employed as a test for blood; it changes the colour of the blood to blue; but does the same to gluten, casein, &c. Peroxide of Hydrogen and Ozonic Ether have been given internally for diabetes and whooping-cough, and Ozonic Ether used locally for scarlet fever.

Statement of the chemistry and properties of Peroxide of Hydrogen, advises its trial in diabetes and fever, as an antidote to the alkaloids and as an application to foul sores. —L. ii./60,390.

Pigment or spray in diphtheria.—Th. Gaz. 1888,199; Pr. xl.454; L. i./91,179.

Of great value as a deodoriser.—M.T.G. ii./75,449.

Promotes glandular secretion, useful in diabetes and dyspnœa; suggests trial in epilepsy.—M.T.G. i./71,162.

Lecture suggesting its medical uses in diabetes, rheumatism, cardiac disease, and struma.—M.T.G. ii./68,661.

Its use in albuminuria following scarlatina, pregnancy, and pneumonia.—B.M.J. i./81,575.

Ozonic Ether, in half-drachm doses, 3 times a day, cured cases of diabetes; it oxidises the sugar. — L. i./68,45; L. ii./68,526; M.T.G. ii./68,680.

For purulent discharges, is a local astringent and antiseptic, colourless, odourless, painless, does not stain and is not poisonous.—Pr. xxxii.196.

Hydrogen peroxide injected assists cure of necrosis of jaw.—L. ii./89,660.

Recommended in various circumstances—typhoid, asphyxia, tetanus and hydrophobia—by injection, inhalation, and spray.—L. i./91,760.

Antiseptic Ointment of Ozonic Ether (Day).

Ozonic Ether 4 drachms, Lard 4 ounces, Benzoic Acid 20 grains, Otto of Roses 4 drops. Mix. Used for inunction over the body three times a day for about three weeks, with success to prevent spreading of scarlet fever in a number of cases, and ½ an ounce of the ether to a pint of water, used as a gargle or given as a mixture in frequent doses.—M.T.G. i./77,256.

Oxygen and **Oxygen Water.**

Are much used in Paris medically. The oxygen is obtained from atmospheric air by first dehydrating and decarbonising it with quicklime; the oxygen is then separated from the nitrogen by being absorbed by caustic baryta exposed under pressure to a high temperature; the peroxide of barium formed yields pure oxygen on being heated at a lower temperature; it is sold compressed in cylinders for use for inhalation from a bag; or water aërated with it supplied in syphons or bottles, is drunk as an exhilarating beverage, and as a remedy for dyspepsia, diabetes, &c.

Their use in nervous diseases, tetanus, hydrophobia, exophthalmic goitre, eclampsia.—Pr. xxxvi. 53; B.M.J. i./87,740.

Constant inhalation of oxygen in pneumonia of great service; relieves dyspepsia, and reduces temperature. Treatment sometimes combined with strychnine hypodermically.—L. i./91,42; i./92,464; B.M.J.E. ii./90,89; B.M.J. i./92,172,327,384,436,501,551,653; Pr. xlviii. 211.

Oxygen water useful in pneumonia.—B.M.J. i./92,948.

Bronchitis successfully treated; should be applied in a gentle stream; if inhaled suddenly in large quantities may cause tetanic condition of muscles.—B.M.J. i./92, 224,251,269. For asthma and phthisis.—B.M.J. i./92, 252,411.

The best cardiac and respiratory stimulant.—B.M.J. i./92,179; B.M.J.E. ii./91,133.

Recommended in anæmia, pleurisy, phthisis, and diabetes, and to increase action of other remedies, as of iron in chlorosis.—B.M.J.E. ii./91,157.

A successful antidote to morphine poisoning.—B.M.J.E. ii./91,37.

Ethereal Oxygen for inhalation.

Put Ozonic Ether, 2 ounces, in a Wolff's bottle, with an inhaling mouthpiece attached to one mouth, add by the other aperture 8 grains of Permanganate of Potassium, dissolved in 1 ounce of water. As the liquids mix oxygen and ether vapour are given off, and may be inhaled for whooping-cough, asthma, phthisis, &c.—Asclepiad, Feb. 1887.

HYDROQUINONE.

Syns. QUINOL, HYDROCHINON (German).

Dose.—½ to 5 grains.

An isomeride of Resorcin and Pyrocatechin. May be prepared from quinic acid by dry distillation, but is principally obtained as a derivative of coal tar. It is neutral, inodorous, has a sweetish taste, soluble 1 in 20 of water, soluble also in alcohol and ether, and slightly so in olive oil. It possesses stronger antiseptic and antipyretic properties than Resorcin. Gramme doses cause symptoms of excitement like Resorcin. It causes no local irritation injected hypodermically, is particularly suitable as an antiseptic in eye operations, useful also in infectious parasitic corneal ulcers, lessens the secretions, does not irritate the conjunctiva or cornea, and has a certain antiseptic action on the diphtheritic process. Like carbolic acid as an antifermentative, and boric acid in the little irritation it causes.—L. i./82,78.

Hydroquinone, Pyrocatechin and Resorcin are used as photographic developing agents.

Notes on its effects on urea and urine.—L. i./87,792.

More certain in action, and better adapted for repeated administration than Resorcin; doses of $\frac{1}{2}$ grain repeated at intervals, most satisfactory as an antipyretic. —B.M.J. ii./88,975.

HYOSCINA.

Hyoscine.

An alkaloid, isomeric with hyoscyamine (?) obtained from *Hyoscyamus niger* and other atropaceous plants.[*]

Hyoscinæ Hydrobromas, P.G. III. In large white prismatic crystals, freely soluble in water. *Dose.*—$\frac{1}{300}$ to $\frac{1}{100}$, increased to $\frac{1}{50}$ grain, in solution or pill.

Injectio Hyoscinæ Hypodermica. 1 grain in 200 minims. *Dose.*—1 to 2 minims.

Liquor Hyoscinæ Hydrobromatis, 1 in 1,000 of chloroform water. *Dose.*—3 to 15 minims.

Pilula Hyoscinæ Hydrobromatis, $\frac{1}{200}$ and $\frac{1}{100}$ grain in each.

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[*] Schmidt has recently stated that Hyoscine consists principally of Scopolamine, an isomer of Cocaine, and that the commercial Hyoscine Hydrobromide consists essentially of Scopolamine Hydrobromide. Of their physiological action Kobert says there is no material difference between that of the pure Scopolamine Salt and the Hyoscine Salt, except that the latter is not quite so powerful. From a therapeutic point of view this is simply an alteration of name.—See p. 69.

Hyoscinæ Hydrochloras. In large crystals, similar to the hydrobromate.

Dose.—$\frac{1}{300}$ to $\frac{1}{100}$, increased to $\frac{1}{50}$ grain.

Hyoscinæ Hydriodas. In large whitish crystals, with properties like above. *Dose.*—$\frac{1}{300}$ to $\frac{1}{100}$, increased to $\frac{1}{50}$ grain, in solution or pill.

F **Hypodermic Lamels of Hyoscine** contain $\frac{1}{200}$ grain in each, combined with gelatine.

Ophthalmic Discs contain $\frac{1}{500}$ and $\frac{1}{200}$ grain similarly combined.

Hyoscine is a powerful narcotic, especially useful in cases of insomnia, in calming excitement and delirium, and producing sleep in acute mania. It is said to have no influence on the respiration, but to increase the action of the heart and circulation. Locally applied it produces rapid, energetic, but brief mydriasis; should be avoided in acute glaucoma.

Is eliminated as such through the kidneys, reduces salivary secretion and perspiration. An excellent palliative for the tremors of paralysis agitans, sclerosis of the spinal cord, and chronic alcoholism.—L. i./90,718; Pr. xlvi.376.

A solution of 1 in 200 is a powerful mydriatic where continued dilatation is required.—L. ii./86,1065.

Three cases of acute mania; is the best calmative, relieves motor spasm, lessens saliva and perspiration; requires caution, $\frac{1}{100}$ grain has caused toxic symptoms.—L. i./88,218; Th. Gaz. March, 1888,173.

As a cerebral sedative, $\frac{1}{200}$ to $\frac{1}{100}$ grain of the hydriodate hypodermically is excellent.—Pr. xxxvii.321; L. i./87,1186; ii./89,736; B.M.J. i./87,1102; i./89,942.

Case of recovery after taking four-fifths of a grain.—Th. Gaz. Dec. 1887,810.

Successful in delirium tremens, insomnia, and maniacal excitement. Pilocarpine or caffeine indicated if unpleasant symptoms occur.—B.M.J. ii./88,75; L. ii./89, 875; ii./91,433; B.M.J. ii./91,694.

Must not be confused with hyoscyamine.—B.M.J. ii./88,421,667,691,736.

Slows pulse, lowers arterial tension, and may produce cardiac paralysis; $\frac{1}{35}$ grain the maximum safe dose, and this arrived at gradually.—L. i./89,42; ii./91,831.

Produces at first slowing of heart, then acceleration.

Blood pressure increased, respiration retarded, and irritability of brain diminished.—L. ii./90,414.

Serious symptoms may follow dose of $\frac{1}{100}$ grain.—Pr. xlii.127; Th. Gaz. 1888,862; 1889,94,358,386,862; L.ii./86,1054.

Case of poisoning by hyoscine (quantity unknown), vertigo and coma quickly occurred. Convulsions controlled by morphine hypodermically, and pilocarpine given later.—L. i./92,328. Another case treated with morphine.—B.M.J. i./92,705.

Poisoning by hyoscine from $\frac{1}{33}$ grain injected after two unsuccessful doses in delirium tremens, treated successfully by pilocarpine, probably about two grains of nitrate.—L. i./92,797.

HYOSCYAMINA.

Hyoscyamine.

Dose.—$\frac{1}{120}$ to $\frac{1}{40}$ grain, in cases of mania increased to $\frac{1}{16}$ or $\frac{1}{8}$ grain or more, dissolved in water by means of diluted sulphuric acid, or in a pill.

An alkaloid first obtained from *Hyoscyamus niger*, but is also contained in *Atropa Belladonna*, *Datura Stramonium*, *Scopola Carniolica*, *S. Japonica*, and probably other atropaceous plants. It is an isomer of atropine (into which it can be converted), as well as of hyoscine (?). (See pp. 69, 231.) It is in light snow-white masses of minute crystals, without odour, soluble 1 in 120 of water, freely soluble in spirit, and alkaline to test-papers, melting at 115°—116° C. As a mydriatic, it acts like atropine, but with greater intensity, while the duration of effect is about equal (P.J. 1876, 471). In addition to the crystallized alkaloid, there is in commerce

Hyoscyamine, Amorphous, or Uncrystallized Hyoscyamine.

Dose.—$\frac{1}{16}$ to $\frac{1}{8}$ grain, increased, given in acute mania.

A dark brown extract-like preparation, having a strong, disagreeable odour. It is much less costly than the crystals, and the dose should be about the same.

According to Kobert this owed its activity principally to the Hyoscine it contains.—Pr. xxxvii.321.

Hyoscyaminæ Sulphas, Hyoscyamine Sulphate, U.S. *Dose.*—$\frac{1}{120}$ to $\frac{1}{40}$ grain, increased.
In small white granular crystals, freely soluble in water.

The **Sulphate** and **Hydrobromate** of **Amorphous Hyoscyamine,** in whitish deliquescent powder, are cheaper preparations.

Injectio Hyoscyaminæ Hypodermica.

Sulphate of Hyoscyamine 1 grain, Distilled Water 2 drachms. *Dose.*—1 to 4 minims.

Hypodermic Lamels of Hyoscyamine contain $\frac{1}{50}$ grain, combined with gelatine.

Ophthalmic Discs contain $\frac{1}{5000}$ grain similarly combined.

Pills and **Granules** of **Hyoscyamine** containing $\frac{1}{250}$ grain are used for sea sickness. Dose, one hourly if required.

Relieves pain of neuralgia, has cured mercurial tremor, senile trembling, and paralysis agitans.—M.T.G. ii./72, 605.

In chorea $\frac{1}{40}$ grain, increased to $\frac{1}{5}$, of the amorphous alkaloid, given twice a day, is effective.—Pr. xvii.291.

In acute mania, the amorphous alkaloid, $\frac{1}{8}$ to $\frac{3}{8}$ grain, increased, given with good result.—Pr. xx.85.

In paralysis agitans, puerperal mania, delirium tremens, crystallized alkaloid is given in $\frac{1}{30}$-grain doses. —Pr. xxvi.124.

Resemblance to atropine in action. $\frac{1}{120}$ to $\frac{1}{40}$ grain injected hypodermically.—L. ii./76,319.

Crystallized alkaloid in dose of $\frac{1}{40}$ grain injected hypodermically produced delirium in patient addicted to morphine injections.—L. i./79,474.

In most cases of mania the amorphous alkaloid is a "chemical restraint," produces sleep in acute mania, diminishes number of attacks in epileptic mania, mind becomes clear in delusional insanity, and in chronic dementia the patient improves under small doses. Dose, $\frac{1}{16}$ to $\frac{1}{4}$ grain.—L. ii./79,462,502,540.

Use as a hypnotic and antispasmodic. Distinct effects from $\frac{1}{160}$-grain doses. Dose recommended of the amorphous alkaloid $\frac{1}{20}$ to 1 grain, of crystals $\frac{1}{100}$ to $\frac{1}{25}$ grain.—B.M.J. i./80,629; M.R. 1880,314.

Amorphous or Extractive Hyoscyamine is useful in maniacal excitement in dose of $\frac{1}{8}$ grain, increased, if necessary, to 1 grain. Sends the patient to sleep in half an hour or less.—Pr. xxvii.367; xxxii.302; xxxiii.46.

When used hypodermically, is most valuable in calming the violence of a furious maniac, or a noisy, general paralytic.—B.M.J. ii./82,1031; i./83,9; L. ii./84,273.

In delirium tremens, quarter of a grain every six hours found useful.—B.M.J. i./85,285.

Use in mania, $\frac{1}{16}$ grain given three times a day, increased to $\frac{1}{8}$ or $\frac{1}{4}$ grain as single doses, requires care.—B.M.J. ii./85,629.

Toxic symptoms.—B.M.J. ii./88,421,667.

Hypnal.—See p. 138. **Hypnone.**—See p. 127.

ICHTHYOL.

Syn. SULPHO-ICHTHYOLATE OF AMMONIUM.

Dose.—10 to 30 grains per diem.

A viscous, brownish, almost black substance, with a disagreeable tarry benzene odour, containing about 15 per cent. of sulphur; is obtained by treating the products of distillation of a bituminous quartz found in the Tyrol with sulphuric acid and neutralizing with ammonia. Many remains of fish and other animals are found in the strata whence this quartz is obtained. The deposit is probably the remains of decomposed animals and fish, hence its name—Ichthyol. The ammonia combination is distinctively known as **Ichthyol,** but sulpho-ichthyolates of similar consistence and appearance are also prepared with Lithium, Sodium, and Zinc, and known as

Lithii Sulpho-ichthyolas. *Dose.*—10 to 30 grains per diem.

Sodii Sulpho-ichthyolas. *Dose.*—10 to 30 grains per diem.

Zinci Sulpho-ichthyolas: Principally for external use.

They are miscible with water, glycerine, fats, oils, chloroform, ether, vaseline, and lanoline, imperfectly with alcohol, unless diluted with ether or water, and may be combined with preparations of lead and mercury without the formation of sulphides. They form valuable applications for chronic skin diseases, as eczema, psoriasis, acne, and favus; as an embrocation, they relieve the pains of chronic rheumatism.—L.ii./83,120; ii./87,1136; B.M.J.i./87,800. Its odour may be disguised with oil of citronella, which is itself used in Ceylon for rheumatism.—Th. Gaz.1890,570.

Capsules of **Ammonium-Ichthyol** and **Lithium-Ichthyol,** 0·25 gramme (4 grains). *Dose.*—1 or 2.

Collodion 7 parts, with Ichthyol 1 part, is used for eczema and other skin diseases.

Pills of **Lithium-Ichthyol,** 1½ grains; also of **Sodium-Ichthyol,** 1½ grains. *Dose* of either, 4 to 12 daily.

Plaster of **Lithium-Ichthyol** is used for application to small wounds.

Salve Mulls are spread containing 10 grammes of Ichthyol in ⅕ square metre (see p. 422).

Solutions of **Ammonium-Ichthyol** in a mixture of equal parts of alcohol and ether contain 10 or 30 per cent.

Unguentum Ichthyol may be made to contain from 20 to 50 per cent. with lanoline or with olive oil and lard.

Ichthyol Paste, recommended by Unna for acne rosacea. Starch 40, moisten with Water 20, and rub in Ichthyol 40, and lastly strong solution of Albumen, 1 or 1½. This is painted on the skin, quickly dries, and is easily washed off. Another formula:—Ichthyol 25, Carbolic Acid, 2½. Dissolve in warm water 22½, and mix with starch 50.—L. i./91,622; B.M.J.E. i./91,102.

Ichthyol is used internally in cases of eczema depending on nervous lesions, in neuralgia, catarrh, chronic rheumatism, lepra, and constipation.

Summary of its uses.—L. ii./87,1136; ii./91,702.

Valuable externally for treating acne, eczema, and lichen.—B.M.J. i./87,800.

Ointments made with 50 and 66 per cent. of this drug, combined with ammonia, are recommended for psoriasis externally in weak constitutions, very sensitive skins, or when these have been affected by stronger remedies.—L. ii./85,577.

Successfully used for acute and chronic rheumatism; it relieves the pain but not the swelling.—L.ii./86,645.

For prurigo senilis a 30 per cent. solution in water recommended, for pruritus, burns, and ulcers a 10 per cent. solution, and internally 2-ounce doses of a 1 per cent. solution for gastric catarrh.—B.M.J. i./86,164; Th. Gaz. 1888,273; Pr. xlvii.223; M.C. Nov. 91,115.

Successful use in eczema, erysipelas, and boils.—L. ii./88, 341; B.M.J. i./89,526; Y.B. 1890,305.

Treatment of erysipelas with ichthyol almost specific. Duration of an attack shortened by one half. Ointment of ichthyol and vaseline equal parts, or of ichthyol, lanoline, and water, equal parts.—B.M.J.E. ii./91,150.

Metritis and other gynæcological cases successfully treated by ichthyol; given in pills, and used as ointment with lanoline, solution in glycerine, and suppositories. Smell disguised by coumarin.—L. i./90, 1142; ii./91,55; B.M.J.E. ii./91,93,117; Ed. M.J. 1890,580; M.C. Feb. 1892,334; Th. Gaz. 1890,619.

Thiol. *Dose* (of dry) 2 to 10 grains, in pills.

A mixture of sulphonised hydrocarbons, prepared by heating gas oil, obtained in the distillation of coal, with sulphur. Occurs in two forms, (1) in dry black laminæ or scales; and (2) **Thiol Liquidum,** a syrupy liquid containing about 40 per cent. of the latter. Thiol is soluble in water, alcohol, and ether; but is precipitated on addition of acids. It is very similar in composition and properties to ichthyol, and is recommended in eczema, intertrigo, erysipelas, burns, etc.—L. i./89,1003; P.J. 1888,507; Th. Gaz. March, 1889,216. Ointment of Thiol Liquidum, 1 in 8, and dusting powder, Thiol, dry, 1, Starch 1, Oxide of Zinc 2, Talc 16, have been used *vice* ichthyol.—Y.B. 1890,305.

Successful in herpes, acne, eczema, and burns. Solution 1 in 4 used as pigment; also ointment 1 in 3.—L. ii./90,38; B.M.J.E. ii./90,30; Th. Gaz. 1890,647.

An excellent remedy for uterine inflammation and ulcerations of the cervix; quick and painless.—B.M.J.E. i./92,22.

Tumenol.

A sulphonised product of mineral oil, similar to the last, is a black thick viscid substance, miscible with water, and has been recommended for eczema and pruritus, applied dissolved in a mixture of equal parts of ether, rectified spirit, and water or glycerine.

Tumenol Oil and **Tumenol Powder**, which are constituents of the above, are also prepared for separate use.—P.J. 1891,425; B.M.J.E.ii./91,173; Th. Gaz. 1892,51.

INGLUVIN.

Dose.—5 to 10 grains.

A special American preparation, said to be prepared from the gizzard of the domestic fowl, *Pullus Gallinaceus.* Recommended as a substitute for pepsin, and for the cure of obstinate vomiting, especially of pregnancy.

Experiments showing that Ingluvin had little or no digestive action on coagulated egg-albumen.—Pr. xxiv.192.

INULA.

Elecampane.

From the root of *Inula Helenium,* which is rich in INULIN, a peculiar body allied to starch, is obtained a crystalline camphor or stearoptene:—

Helenin. *Dose.*—⅓ to 2 grains.

Is in light white acicular crystals, like sulphate of quinine in appearance; has a faint odour and aromatic taste; is insoluble in water, but freely soluble in alcohol. Consists principally of Alant Camphor with Alantic Anhydride and some true Helenin, all crystalline. The crude Helenin is a powerful antiseptic; arrests putrefaction 1 in 10,000. In Spain, it has been much used, as a surgical dressing. Ferran says it is more destructive to the cholera bacillus than any other agent. It is useful in ozæna; keeps away insects, especially mosquitos. Internally used with success in malarial fevers, tubercular, infantile, and catarrhal diarrhœa. It is somewhat costly.—L. i./85,673; P.J. 1885,890. Useful to diminish secretion, especially of the lungs; recommended for bronchitis.—Pr. xxxiv.57.

An oily solution has been found useful as a paint in diphtheria.—P.J. 1886,919; L. i./86,709.

In chorea, bronchitis, and spasmodic cough, used with success.—P.J. 1887,801.

Helenin, or any of its crystalline constituents, will prevent growth of tubercle bacillus if present 1 in 10,000; has a real protective action against the disease. B.M.J. ii./91,838; P.J. 1891,347.

IODOFORMUM.

Iodoform (*Off.*).

Dose.—½ to 3 grains or more gradually increased.

Prepared by the action of iodine on a hot solution of carbonate of sodium or potassium in diluted alcohol, or by the action of chlorinated soda on acetone in the presence of an iodide.—*Nouv. Rém.* Nov. 1889,572. It is in shining yellow hexagonal crystalline scales, having a persistent disagreeable odour resembling that of saffron. Soluble 1 in 8 of absolute ether, 1 in 10 of ether (Sp. Gr. 0·735), 1 in 12 of chloroform, 1 in 80 of rectified spirit, 1 in 14 of oil of eucalyptus, 1 in 10 of collodion, 1 in 60 of vaseline and oil of almonds, and about the same in fats and other fixed oils. It is insoluble in water, but dissolves 1 in 10 of Rubini's solution of Camphor, which disguises its odour.

Iodoformi Pulvis, as sold, is in reality in very minute crystals. It is preferred for surgical purposes, as it does not clot, but can be dredged on the diseased part.

Iodoformum Præcipitatum, or precipitated Iodoform, is a primrose yellow coloured impalpable powder. It has a slight tendency to form clots. It is used for dusting on sores.

Iodoform possesses powerful antiseptic as well as slight anæsthetic or sedative properties. It is most poisonous to the virus of syphilis and gonorrhœa, and, although it contains $\frac{29}{30}$ of its weight of pure iodine, it is not an irritant, like the latter, either taken by the stomach or applied topically. It is largely employed as a general antiseptic in various forms of dressings. Several modes have been suggested of covering its characteristic odour when used for this purpose, such as mixing it with balsam of Peru, oil of eucalyptus, carbolic acid, oil of peppermint, oil of anise, Sanitas oil, otto of rose, tannic acid, oil of sassafras, creolin, thymol, menthol, coumarin, and Tonquin bean; the two last perfume it, and balsam of Peru covers it, but not effectively.

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constituents of the above,
separate use.—P.J. 1891,42
Th. Gaz. 1892,51.

INGLUVI

Dose.—5 to 10 grains.

A special American preparatio
from the gizzard of the domest
[illegible]. Recommended as a
for the cure of obstinate vomiting,

Experiments showing that
[illegible]

INULA

Elecampa

[illegible]

Helenin, [illegible]
prevent [illegible]
10,000; [illegible]
B.M.J. [illegible]

IODOFORMUM

Iodoform [illegible]

Dose.—[illegible]

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by the action [illegible]
presence [illegible]
in shining yellow [illegible]
persistent [illegible]
Soluble 1 in [illegible]
Gr. [illegible]
spirit, 1 in [illegible]
in 60 of [illegible]
in fats and [illegible]
dissolves [illegible]
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Iodoformi [illegible]

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Iodoform 2 grains, Sug
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Iodoformum Aromaticum is scented with Coumarin, 1 in 50.

When used for chancres it is best applied in ethereal solution, or iodoform powder dusted on and covered with boric acid ointment or gold-beater's skin, or painted over with flexible collodion.

It is decomposed when taken internally and iodine is soon found in the urine; not being an irritant like iodine, it has been given with good effect when the latter is indicated, and has been of service in cases of irritation of the brain and spinal cord.—Binz.

Buginarium Iodoformi, T.H.

Nasal bougies having a gelato-glycerine basis and containing $\frac{1}{6}$ to $\frac{1}{2}$ grain of Iodoform in each. As they gradually dissolve, the action of the Iodoform is sustained.

Camphoid of Iodoform.—See p. 96.

Collodium cum Iodoformo.

Iodoform 5 grains, Flexible Collodion 1 drachm. Dissolve. Used as a pigment to venereal sores.

Emulsio Iodoformi (Sir J. Lister).

Iodoform 1, Glycerine 10, is used as a surgical application.

Improved formula:—Iodoform, in minute crystals, 1, Rectified Spirit *q.s.* to moisten, Boiled Distilled Water 2, Glycerine 7. Mix well in above order.

Other formulæ and uses.—B.M.J. i./90, 922.

Iodoform emulsion successful as an injection in cold abscess.—L. i./90, 1142; B.M.J. ii./90, 49; Th. Gaz. 1890, 432.

Insufflatio Iodoformi, T.H.

Iodoform, in fine powder, 1 grain, Starch, in fine powder, $\frac{1}{2}$ grain. In specific affections of the throat, antiseptic and mildly caustic.

Insufflatio Iodoformi Composita (Westminster Hospital). Iodoform 1 grain, Boric Acid 1 grain, Acetate of Morphine $\frac{1}{6}$ grain.

Iodoform and Eucalyptus Bougies, Cereolus Iodoformi et Eucalypti.

Iodoform, precipitated	...	5 grains.
Oil of Eucalyptus ...	...	10 minims.
Oil of Theobroma ...	...	35 grains.

To make a bougie 4 in. long. Used for gonorrhœa.

After emptying the bladder, the bougie, dipped in a mixture of eucalyptus and castor oils, or carbolic oil, is introduced into the urethra, and forced up, if possible, an inch beyond the meatus. To absorb discharge, a pad of boric lint is applied over the orifice and retained in position, if the patient is able, by drawing the foreskin over it; outside, gutta-percha tissue and isinglass plaster are used to keep the whole *in situ*, for 5 or 6 hours. Absorbent wool or lint should be placed to catch any discharge escaping. On removal, solution of sulphocarbolate of zinc (2 grs. in 1 oz.) is injected, and in acute cases another bougie introduced. The injection should be used 6 or 7 times a day, for 3 or 4 days. When the acute symptoms have subsided, any remaining discharge may be treated by injections of tannin or sulphate or acetate of zinc.—B.M.J. ii./80,124; L. ii./82,175,213.

Iodoform Gauze, 20 per cent. Is prepared and used like Iodoform Wool.

Recommended for burns, calms the pain.—Pr. xliii. 298; M.P.C. ii./89,203.

Iodoform Lint, 10 per cent.

Iodoform Varnish, (after Whitehead).

Benzoin 4, Storax 3, Balsam of Tolu 1, Pure Ether 40; dissolve, strain, and add Iodoform 4. For surgical application.

Iodoform Wool, Gossypium Iodoformi, 10 per cent. Used as an antiseptic dressing to wounds.

Gossypium Iodoformi, T.H.

Contains 50 per cent. of Iodoform. It is used as a stimulant and antiseptic for affections of the ear.

Ophthalmic Discs, contain $\frac{1}{1000}$ grain of Iodoform combined with gelatine.

Pastillus Iodoformi, T.H.

Contains 1 grain of Iodoform (more or less if prescribed) with 18 grains of glyco-gelatine in each pastil. Useful in syphilitic eruptions of the tongue, mouth, and throat, and in chronic pharyngitis.—M.T.G. ii./78,626.

Pencils of Iodoform, varying in thickness, for uterine medication, are prepared with iodoform, glycerine, and gum *q.s.*, and dried.

Pilula Iodoformi, T.H. Iodoform 2 grains, Sugar of Milk 1 grain, Glycerine of Tragacanth *q.s.* *Dose.*—1, two or three times a day.

Plaster Mulls contain 10 grammes of Iodoform in ⅕ square metre (see p. 421).

Suppositorium Iodoformi (*Off.*).

Iodoform, precipitated, 3 grains (more or less if ordered), Oil of Theobroma *q.s.*

May also be used as a pessary.

Unguentum Iodoformi (*Off.*).

Iodoform 1, Benzoated Lard 9.

Melt the lard, add the iodoform, stir together until dissolved and cool. Oil of rosemary recommended to cover its odour.—L. i./88,1018.

Unguentum Iodoformi et Eucalypti.

Iodoform	60 grains.
Oil of Eucalyptus	1 ounce.

Heat gently till dissolved and add to

Paraffin	2½ ounces.
Vaseline	2½ ounces.

Melted together. Stir till cold.

Iodo-Vaseline is the same as the above, only all vaseline in place of 2½ ounces of paraffin.—B.M.J. ii./82,904.

Unguentum Iodoformi Rosatum.

Iodoform 5 grains, Vaseline 1 ounce. Heat gently to dissolve, add Otto of Rose 3 drops, and stir till cold. In nasal affections is useful in all forms of perverted secretion.

In later forms of syphilis and naso-pharyngeal affections, dose 1 to 2 grains internally and externally for venereal sores and indolent ulcers where there is no active inflammation.—L. i./79,83.

In phlyctenular ophthalmia and ciliary blepharitis an ointment of 1 in 12 of lard was useful.—L. ii./79,953.

Iodoform ointment used in orchitis, enlarged glands, and venereal ulcers.—B.M.J. ii./79,498.

All chancres are best treated with Iodoform. Sprinkle a little on the wound and cover with lint and vaseline.—Br. ii./79,lx.; Pr. xxii.321.

In nasal catarrh used as snuff *per se* with success.—B.M.J. i./80,167.

Ulcers treated by dusting it on and covering with boric acid ointment.—B.M.J. i./80,362,400.

Alveolar abscesses treated by iodoform in conjunction with oil of eucalyptus.—B.M.J. i./80,621.

On the frog's heart Iodoform acts like chloroform, but much more powerfully, arresting the ventricle; this can be restored by ammonia, which is antagonistic to Iodoform and chloroform.—Pr. xxvii.20.

Ulcer of the stomach treated by a 3-grain pill of Iodoform three times a day, blistering and nutrient enemata, vomiting ceased and rapid improvement resulted.—B.M.J. i./82,657.

Soft sores treated by painting with ethereal solution of Iodoform and then covered with a film of collodion or gold-beater's skin.—B.M.J. i./82,340.

One in 10 of collodion useful as a pigment in erysipelas.—Pr. xxxii.365.

Is often used in too great a quantity to wounds.—L. i./87,595 ; M.R. 1882,405

Acute and chronic forms of toxic symptoms are produced from its application to wounds.—Pr.xxxvii.271.

Potassium bromide an antidote to iodoform poisoning.—Th. Gaz. Sept. 1889,610.

Iodoform internally better than iodides for young scrofulous children. Given in honey.—M.C. Nov.91,113

Iodoform vapour, by sprinkling room with iodoform, useful in whooping-cough.—B.M.J.E. ii./91,119.

Treatment of tuberculous abscesses evacuated and injected with solution of iodoform in ether successful.—B.M.J. i./91,901 ; M.C. Aug. 1891,380. Oily injections.—Th. Gaz. April 1891,261 ; L. i./92,440.

Iodoform is a weak germicide not fatal to bacteria.—Ed. M.J. Oct. 1890,389.

Satisfactory use in ophthalmia neonatorum.—B.M.J.E. ii./91,135.

Succedanea or substitutes for Iodoform.

Antiseptol.—See Cinchoninæ Iodosulphas,p.124.

Aristol.—*Syn.* DI-THYMOL-IODIDE.

Obtained by mixing a solution of iodine in iodide of potassium with an alkaline thymol solution.

A reddish brown powder, containing 45·8 per cent. of Iodine, insoluble in water and glycerine, soluble in ether, collodion, and oils; must not be heated or exposed to light. Recommended for psoriasis, mycosis, and lupus, and as a dusting powder for wounds and burns. May be employed (5 to 10 per cent.) with vaseline, lard, lanoline, or zinc and starch paste, as basis of Lassar's paste (see p. 408).—Preparation of.—P.J. 1891,1135.

Summary of successful use in various skin affections; epithelioma, psoriasis, eczema, rhinitis, ozæna, and lupus. Unsatisfactory in lichen rubra, soft chancre, and gonorrhœa.—M.C. 1890, July, 298, Aug. 407; Ed. M.J. 1890,88,295; Th. Gaz. 1890,558,761.

Aristol has a certain effect in venereal ulcers, but acts very slowly. Only advantage over Iodoform is absence of smell. Activity inferior.—B.M.J.E. ii./90,47.

Of service in the first and second stages of pulmonary tuberculosis; none when cavities exist. Injection, 1 in 100 of sterilised almond oil. Cough and night sweats lessen. Is in great measure eliminated by lungs.—B.M.J.E. ii./91,102.

Used with success as insufflation in cancer of cervix uteri—relieves pain, stops bleeding, lessens discharge—is not absorbed, therefore non-toxic.—B.M.J.E. ii./91, 155.

Burns and scalds treated successfully with Aristol and Vaseline (1 in 10).—L. ii./91,141.

Application of powder to cornea successful in keratitis.—L. i./91,1060; Th. Gaz. 1892,98.

Of great value in nasal affections: ozæna, granulations, and syphilitic ulcers.—Pr. xlvii. 382; M.C. Feb. 1892,341.

Dermatol.—See p. 84.

Europhen.—ISO-BUTYL-ORTHO-CRESYL-IODIDE.

A yellow amorphous powder, containing 28 per cent. of iodine, with slight saffron odour, insoluble in water and glycerine, soluble in oil, alcohol, ether, and chloroform; is resinous to touch, and adheres well to mucous membrane and wound surface; is five times lighter than Iodoform, and cakes less easily. Is decomposed by light, and must not be heated to prepare solutions or ointments; solutions should be filtered owing to formation of an insoluble iodine compound. Is non-poisonous, and acts only when brought into contact with secreting surfaces, which decompose it and liberate iodine; should not be combined with preparations of starch or metals. Has been used with satisfactory results as powder or ointment (1 to 10 per cent.) in simple and venereal ulcers, and in oily solution (1 or 2 grains), injected daily for syphilis; failed in eczema, psoriasis, and gonorrhœa.

May be used with advantage in all cases where Iodoform has been used.—L. ii./91,504; P.J.1891,81; Pr. xlviii. 58; B.M.J.E. i./92,4; ii./91,166; Th. Gaz. 1892,115.

Iodol.—*Syn.* TETRA-IODO-PYRROL. *Dose.*–1 to 3 grains.

A micro-crystalline, brownish white powder, obtained by precipitating pyrrol with iodo-iodide of potassium. It gives off iodine vapours on being heated. Insoluble in water, but soluble 1 in 34 of glycerine, 1 in 6 of alcohol and freely in ether; also soluble in chloroform, and can be used suspended in glycerine, or in solution in rectified spirit and glycerine. It has no unpleasant smell, produces no anæsthetic toxic action, like Iodoform, when wounds are dressed with it, and its application is painless; useful in buboes and indolent and corneal ulcers.—B.M.J.i./86,1229; P.J.1885,367; 1886,1087.

An ointment, 1 to 5 of vaseline, and a solution, 3 parts to 35 of alcohol and 62 of glycerine, have been used for granular and chronic conjunctivitis with good results; and a solution of iodol 1, alcohol 3, glycerine 21, as a pigment in diphtheria.—B.M.J.i./87,789.

Collodion and **Ether** (1 in 1) are good solvents of Iodol. These form useful applications.

With spirit and glycerine is valuable as a pigment to canal of external ear for discharges.—L. ii./86,745.

Being both odourless and non-toxic is specially valuable.—Ed. M.J. Jan. 1888,673.

Summaries of results.—Th. Gaz. Jan. 1888,27; Ed. M.J. Dec. 1887,565.

Hard and soft chancres and varicose ulcers much improve under its use.—L. i./87,542.

Has some anæsthetic action, and acts as an astringent when discharge is copious.—B.M.J. i./87,460.

Iodo-Salicylic Acid and **Di-Iodo-Salicylic Acid.**—These two acids are iodine compounds of salicylic acid, in which one and two atoms respectively of hydrogen are replaced by iodine. In commerce they are found as white micro-crystalline powders, slightly soluble in water, soluble in alcohol, ether, fixed oils, and like salicylic acid, also in collodion. They have the combined action of iodine and salicylic acid. The **Di-Iodo-Salicylic Acid** is the richer in iodine, and in dose commencing at 22 grains, and increased to 60 grains daily, proved very useful in acute polyarticular rheumatism; is both analgesic and antithermic, and has succeeded where salicylates have failed. May be given in cachets. It is also a powerful antiseptic.—Bulletin Thérap. Aug. 1889,131; P.J. 1889,502, *ex* Nouv. Rem. Nov. 1889,595.

Sozoiodol. DI-IODO-PARA-PHENOLSULPHONIC ACID, which contains 54 per cent. of iodine, 7 per cent. of sulphur, and 20 per cent. of phenol, has been combined with **Sodium, Potassium, Ammonium, Lead, Mercury,** and **Zinc,** to form salts which have been suggested as odourless substitutes for iodoform.

The sodium salt, SOZOIODOL-SODIUM, which has been most used, is in odourless shining acicular crystals, soluble 1 in 14 of water. It has been given internally in doses of 22 grains three times a day, and is well tolerated as an external application.—B.M.J. ii./88,1170; L. i./89,893; P.J. 1889,577; 1890,1039; Y.B. 1890,313. Its topical application has been found too irritating.

Iodine is contained in these preparations in the following proportions:—

Iodoform	381 in 394	or about	29 in 30
Iodol	508 ,, 571	,,	9 ,, 10
Di-iodo-salicylic acid	254 ,, 390	,,	2 ,, 3
Iodo-salicylic acid ...	127 ,, 264	,,	1 ,, 2
Sozoiodol	54 ,, 100	,,	1 ,, 2
Aristol	45·8 ,, 100	,,	1 ,, 2
Europhen	28 ,, 100	,,	2 ,, 7

Periodate, Crystals and Powder. *Dose.*—1 to 15 grains. A specialty in odourless whitish granular powder, slightly soluble in water, and consisting of periodic and iodic acids, partly in combination with calcium. Morphine solution liberates iodine from it. Recommended as an antiseptic and deodoriser.—L. ii./89,1312; i./90,105; M.P.C. i./90,77. Iodate of calcium is a weak germicide.—B.M.J. i./90,279.

IODUM.

Iodine (*Off.*).

The official preparations containing free Iodine are Linimentum Iodi 1 in 8, Liquor Iodi (Lugol's solution) 1 in 20 of water (with iodide of potassium 1¼), Tinctura Iodi 1 in 40, Unguentum Iodi 1 in 31, Vapor Iodi, volumetric solution of Iodine, 127 in 10,000.

It has been seriously discussed whether a tolerance of Iodine is not a proof of the existence of constitutional syphilis.—Th. Gaz. Dec. 1888,802.

Tinctura Iodinei, P.E. 1 grain Iodine to 16 minims Rectified Spirit. For external use, and is preferred for injecting for hydrocele and for dry inhalation; is not miscible with water.

Carbolised Iodine Solution.—See p. 9.

Collodium Iodi.—See p. 163.

Glycerinum Iodi.

Iodine 20 grains, Glycerine 1 ounce. Heat carefully till dissolved,—is not a mere solution, some decomposition of glycerine takes place. It forms a useful pigment, the skin does not get hardened by its repeated application, and does not peel off.—P.J. 1870,601.

Glycerinum Iodi, G.H., *Morton's Fluid.*

Iodine 20 grains, Iodide of Potassium 30 grains, Glycerine to 1 ounce.

Iodized Phenol.—See Acidum Carbolicum, p. 10.

Iodized Wool. Saturate Absorbent Wool 4, with Iodine 1, dissolved in Ether 10, and dry.

Injectio Iodi Hypodermica Fortissima, T.H.

Iodine 360 grains, Iodide of Potassium 360 grains, Distilled Water 4½ drachms. Should measure exactly 1 ounce and contain ¾ grain free Iodine in each minim. *Dose.*—3 to 5 minims for fibrous bronchocele.—Birm. Med. Rev. iv.1875,56.

A grain of Iodine may be held in solution in a minim of fluid, by employing iodide of sodium in the proportion of Iodine 3, iodide of sodium 2, and water *q.s.* to form 3 volumes.

Iodo-Glycerine Solution.

Iodine 10 grains, Iodide of Potassium 30 grains, Glycerine 1 ounce. In spina bifida about 30 minims are injected into the tumour.—L. i./76,776; i./77,684; i./82,737; ii./83,499; B.M.J. i./82,661.

Pigmentum Iodi et Olei Picis, U.C.H.
(Coster's Paste).

Iodine 120 grains, Light Oil of Wood Tar 1 ounce.

Mix carefully, applying heat if necessary; after ebullition preserve for use. Ebullition generally takes place by the chemical action between the two ingredients, a part of the oil is oxidised and forms a resinous deposit. Hydriodic acid is probably formed to some extent, as the mixture fails to give any reaction of free Iodine.—M.T.G. i./67,34; B.M.J. i./80,192; L. i./80,55.

Similar, but more irritating, applications are made by combining Iodine with creasote or *huile de cade* in the same proportions as above.

Coster's Paste is a useful application for ringworm of the scalp; after well shaking the bottle, it should be well brushed in with a stiff brush; a scab will be produced which should be removed in a few days, the part cleansed by soaking with oil, and then soap and warm water; after drying, more paste should be applied. It seldom causes pain.

Use in the treatment of ringworm.—L. i./80,55; B.M.J. i./80,114, and Alder Smith on Ringworm.

Tinctura Iodi Ætherea.

Iodine 1, Pure Ether 40.—See p. 43.

Tinctura Iodi Decolorata, B.P.C.

Iodine	250 grains.
Rectified Spirit	5½ ounces.

Dissolve with a gentle heat, and add when cold

Strong Solution of Ammonia	10 drachms.

Keep the mixture in a warm place until decolorised, after which dilute it with (about 2 to 1 is required)

Rectified Spirit ...	*q.s.* to 1 pint.

Mix. Undiluted it may be prescribed as *Tinctura Iodi Decolorata Fortior*; if diluted, it is about the strength of the official tincture, and forms a useful application for chilblains and painting on exposed affected parts. Some iodoform is formed in solution.—P.J. 1876,42.

Tinctura Iodi Oleosa.

Iodine 1 ounce, Rectified Spirit 9 ounces; heat to dissolve, and add Castor Oil 2 ounces. Repeatedly applied as a pigment, it does not crack the skin, as the tincture does.

Amyli Iodidum (Buchanan).

Syn. AMYLUM IODATUM; IODIZED STARCH, U.S.

Iodine 24 grains, Distilled Water *q.s.* to moisten. Triturate and add gradually Starch in powder 1 troy ounce. Continue the trituration until it assumes a deep and uniform colour, and dry under 104° F.

Dose.—½ to 4 drachms, in water, water gruel, or arrowroot with water. As a local application, is said to be as valuable as iodoform.

This is a mild form of administering Iodine in very weak combination for syphilis and other diseases, the dose is pushed until free Iodine can be detected in the urine. It is recommended as an antidote when poison is unknown, *e.g.*, for sulphuretted hydrogen, the alkaloids, alkaline sulphides, caustic alkalies, and ammonia.—Pr. xxvi.128.

In lupus erythematodes, doses of 1 to 4 teaspoonfuls three times a day very successful.—B.M.J. i./80,652.

Pasta Iodi et Amyli, U.C.H.

Starch, in powder, 1, Glycerine 2, Water 6; boil, and when nearly cold add Solution of Iodine (*Off.*) 1. Mix well. In devising this formula the writer found the addition of glycerine was necessary to prevent the paste turning mouldy. Useful to cleanse and heal foul sores, especially such as are syphilitic.—Tilbury Fox. It rapidly heals syphilitic ulcers, especially those of the face; if applied on lint during the night, the sores may be hidden with calamine lotion during the day.

Syrupus Acidi Hydriodici, U.S., contains 1 per cent. of Hydriodic Acid. It is made by decomposing an alcoholic solution of Iodine in syrup by means of sulphuretted hydrogen, and flavoured with spirit of orange. *Dose.*—20 to 40 minims. Is a mild preparation of Iodine.

Vapor Iodi Ætherealis.

Iodine 3 grains, Ether 2 drachms, Carbolic Acid 2 drachms, Creasote 1 drachm, Rectified Spirit 3 drachms. Ten minims to be dropped on the respirator for dry inhalation. Thymol may be substituted for creasote.—B.M.J. i./81,841.

IPECACUANHA.

Ipecacuanha (*Off.*).

Dose.—As an expectorant, ½ to 2 grains, as an emetic 15 to 30 grains.

Ipecacuanha induces energetic uterine action in first or second stage of labour; 2 or 3 doses of 10 to 15 minims of the wine at intervals of a few minutes.—B.M.J. ii./90,1295.

Pulvis Ipecacuanhæ sine Emetina (Ipecacuanha from which the emetine has been extracted) acts equally well, it is said, for dysentery, without causing vomiting.

Acetum Ipecacuanhæ (*Off.*).

Dose.—5 to 40 minims as an expectorant.

Ipecacuanha, in No. 20 powder, 1 ounce, Diluted Acetic Acid *q.s.* to 1 pint. Macerate 24 hours and percolate.

Syrupus Ipecacuanhæ Aceticus, B.P.C.

Dose.—¼ to 2 drachms.

Vinegar of Ipecacuanha 1 pint, Refined Sugar 2¼ pounds. Dissolve by the aid of a gentle heat. Sp. Gr. about 1·33.

Emetina, Emetine.—*Syn.* EMETIA.

Dose.—$\frac{1}{200}$ to $\frac{1}{50}$ grain, as an expectorant; $\frac{1}{6}$ to $\frac{1}{3}$ grain as an emetic.

An alkaloid obtained from Ipecacuanha, as met with in commerce, is in pale, brownish-white, amorphous masses, sparingly soluble in water and ether; freely soluble in alcohol, chloroform, and dilute acids. It can be obtained in white crystals, which turn yellow exposed to sunlight. It is a biacid base, and a tertiary diamine like quinine, and probably a derivative of chinoline. It irritates the skin applied locally, producing pustules, like tartar emetic. Two grains suffice to kill a dog. It is a powerful emetic and depressent. Ipecacuanha yields about 1 to 1½ per cent. of Emetine.

Emetin—Extractive.

Dose.—Expectorant $\frac{1}{15}$ to $\frac{1}{10}$, emetic ½ to 1 grain, in pill or solution. An extractive substance, soluble in water, is a commercial article, must be distinguished from the above.

Trochisci Morphinæ et Emetin contain $\frac{1}{40}$ grain of Morphine and $\frac{1}{80}$ grain of Emetin in each.

Emetin is an emetic by reflex action, reduces the respiration and circulation, and it combats the convulsions caused by strychnine.—B.F.M.C.R. ii./74,247.

Physiological properties.—Its action seems to be limited to the peripheric extremities of the vagus nerve. —L. ii./74,532; L. i./80,500.

IRIDIN.

Syn. IRISIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth or extract of henbane.

The powdered extractive of a dark brown colour obtained from the root of the blue flag, *Iris versicolor,* has a bitter, nauseous, acrid taste, possesses cathartic, alterative, and diuretic properties, given in hepatic and intestinal disorders. Malarial jaundice has been cured by it.—B.

Pilula Iridin.—Iridin 2 grains, Extract of Henbane *q.s.* To make one pill. Two for a dose at bedtime quickly remove slight feeling of biliousness, especially when the tongue is yellow; should be followed by a saline aperient in the morning. Iridin is gentler in action than podophyllin and more reliable when a slight cholagogue is wanted for a lengthened period.—Pr. xxiii.335; B.M.J. i./79,177.

On dogs acts as a powerful hepatic and intestinal stimulant.—B.M.J. Rep. 1878,66.

Comfortable purge for biliousness, 4 grains combined with one grain of euonymin.—B.M.J. i./79,932.

Mild aperient cholagogue, produces bilious stools, does not irritate rectum, and has no subsequent astringency.—L. ii./62,239.

In gallstones, 1 grain every night for twelve nights removes liability to.—B.M.J. ii./81,694.

JABORANDI.

Jaborandi (*Off.*).

Syn. PILOCARPI FOLIOLA.

Dose.—5 to 60 grains of the powder.

The dried leaflets of a rutaceous shrub, diagnosed by Mr. E. M. Holmes as *Pilocarpus Jaborandi,* imported from Brazil, principally from Pernambuco. The leaflets of *P. Selloanus* are also imported from Rio de Janeiro under the same name, but are much less active. Jaborandi was first introduced into Britain by the writer in 1874. The leaves are of a dull green colour, large, pinnate, having 3 to 5 pairs of leaflets and a terminal one. The leaflets are coriaceous, 4 to 6 inches long, oblong, lanceolate, emarginate, smooth, or only slightly tomentose and full of pellucid dots. The leaves of several species of *Piper* are also known in Brazil as Jaborandi, and should not be confounded with the *Pilocarpus* variety. True Jaborandi is a powerful sudorific and sialogogue; after a time a large dose acts as an emetic, contracts the pupil of the eye, and causes the approximation of vision. These properties are due to an alkaloid **Pilocarpine** contained in it. A second alkaloid Jaborine, which is said to have antagonistic properties to pilocarpine, is probably a derivative from it; more recently two other alkaloids—Pilocarpidine and Jaboridine—have been isolated from the leaves. Pure Pilocarpine is a colourless, syrupy, liquid, odourless alkaloid, which forms crystallizable salts with acids (see Pilocarpina). Jaborine is more liquid, and does not form crystallizable salts. Pilocarpine and Pilocarpidine have a similar physiological action, and their derivatives Jaborine and Jaboridine, are also allied in being antagonistic to them. Possessing such marked physiological properties, Jaborandi has been used in a great variety of diseases, most successfully in asthma, diabetes, and as an antidote to belladonna poisoning. Children proportionately are not affected by the drug so much as adults. Description and physiological action (on the writer).—P.J. 1874,364; and 1875,561; L. i./75,138; B.M J. i./75,142; M.T.G. i./75,92.

Description and botanical source.—P.J. 1875,581,641.

Extractum Jaborandi (*Off.*).

Dose.—2 to 10 grains, in pills.

Extractum Jaborandi Fluidum, Liquor Jaborandi. 1 = 1 of leaves.

Dose.—10 to 60 minims.

Infusum Jaborandi (*Off.*). 1 in 20.

Dose.—1 to 2 ounces as a diaphoretic.

Tinctura Jaborandi (*Off.*). 1 in 4.

Dose.—30 to 60 minims.

Physiological and therapeutical action.—L. i./75,157; B.M.J. i./75,543; i./79,137,177; ii./80,889; i./81,969.

Diabetes insipidus, 2 cases relieved by Jaborandi.—L. ii./75,242. Unsuccessful.—L. ii./75,775.

Puerperal albuminuria and convulsions, its effects on.—L. i./79,464.

Tension of accommodation, increase of lachrymal secretion and glistening scotomata caused by taking infusion of.—Pr. xxii.458.

The sweating and salivation from a full dose of Jaborandi or Pilocarpine persist from 2 to 4 or 5 hours, the symptoms come on in about 10 minutes after taking the dose if external conditions are favourable. Hypodermically the alkaloid acts in 3 to 5 minutes. A reduction of temperature on an average of 0·9° occurs under the influence of the drug. The face flushes first and then pales; it causes contraction of the pupil, tension of accommodation with approximation of the nearest and farthest points of distinct vision, and amblyopic impairment of vision from diminished sensibility of the retina. These effects do not last long. It is slightly narcotic, sometimes causes sickness in large doses, promotes secretion of milk and is antagonistic to atropine.—R.

Pilocarpina, Pilocarpine.

The pure alkaloid is not used medicinally. It has been synthetically prepared from pyridine, pilocarpidine being an intermediate product. For characters and properties, see p. 252.

Pilocarpinæ Hydrochloras, Pilocarpinum **Hydrochloricum, P.G.** III.

Dose.—$\frac{1}{20}$ to $\frac{1}{2}$ grain by mouth or $\frac{1}{10}$ to $\frac{1}{3}$ grain hypodermically. In minute granular snow-white crystals, slightly deliquescent and very soluble in water. This salt is preferred on the Continent.

Pilocarpinæ Nitras (*Off.*).

Dose.—$\frac{1}{20}$ to $\frac{1}{2}$ grain as the hydrochlorate.

In minute white granular snow-like crystals, but may be obtained in large white prismatic crystals. Soluble 1 in 8·2 of water, freely soluble in hot, but very slightly in cold alcohol. This salt, preferred in England, was the first pure preparation of Pilocarpine prepared, and obtained by the writer by crystallizing it from an alcoholic solution, thus freeing it from impurities.

Guttæ Pilocarpinæ, R.O.H.

Nitrate of Pilocarpine 2 grains, Distilled water 1 ounce. Used like Physostigmine to contract the pupil.

Injectio Pilocarpinæ Nitratis Hypodermica, R.O.H. *Dose.*—2 to 6 minims.

Nitrate of Pilocarpine 1 grain, Distilled water 20 minims.

G. H. has 1 grain in 10 minims, with following directions:—"To prepare the patient for the injection remove the night-shirt, wrap him closely in a warm blanket, and cover him with two more blankets. Put hot water bottles to his feet, and give him hot drinks freely. After the sweating has ceased, remove the blankets gradually, dry the skin thoroughly, and leave him between warm dry blankets."

Hypodermic Lamels contain $\frac{1}{4}$ grain, and **Ophthalmic discs** $\frac{1}{500}$ grain, combined with gelatine.

Lotio Pilocarpinæ, for the hair.

Nitrate of Pilocarpine 2 grains, Hydrochlorate of Quinine 8 grains, Glycerine 2 drachms, Rose Water 6 drachms. Applied locally, and used internally or hypodermically, Pilocarpine seems to have an action in promoting the growth of hair in alopecia.

Pilula Pilocarpinæ Nitratis.

Nitrate of Pilocarpine $\frac{1}{20}$ grain triturated with sugar of milk and glycerine of tragacanth *q.s.* to make one pill.

The salts of pilocarpine possess all the before-mentioned properties of jaborandi in a marked degree; applied topically, they contract the pupil of the eye. Pilocarpine is antagonistic to atropine, and a complete antidote to poisoning by the latter. It promotes the growth of the hair in alopecia. Large doses are powerfully diaphoretic, small ones ($\frac{1}{20}$ grain) check night sweating of phthisis—does not over-dry the skin.—Pr. xxiii.430; xxxiii.430.

Acute nephritis, used with effect in 0·03 gramme ($\frac{1}{2}$ grain) dose; a 2 per cent. solution applied to the eye produces strong contraction.—Binz.

Unilateral sweating, experiments on, pilocarpine affected the normal more than the diseased side.—Pr. xvii.401.

For Bright's disease and dropsy.—Pr. xxi.132; L. ii./88,1228.

In rheumatic iritis.—Pr. xxi.209; M.C. July, 1890, 306.

The hydrochlorate applied locally caused high degree of myosis and slight spasm of accommodation; injected hypodermically, high degree of spasm of accommodation and slight myosis.—Pr. xxii.458.

To contract the pupil of the eye is less active (slightly) than physostigmine.—B.M.J. ii./79,364.

In intermittent fever $\frac{1}{7}$ to $\frac{1}{5}$ grain of nitrate promptly cuts short the chill, produces sweating, and avoids hot stage altogether.—Pr. xxiii.365.

Summary of uses:—useful in nephritis, assists pains of labour, but will not originate them, diminishes urine in diabetes; action similar to physostigmine but less irritating, in diseases of the eye; said to promote growth of the hair.—Pr. xxiii.374.

Three hypodermic injections successful in a comatose case of uræmia, albuminuria, with convulsions and complete anuria.—Pr. xxiv.129.

In skin diseases where the secretion of sweat was more or less altered, $\frac{1}{6}$ grain hypodermically twice a day found useful in prurigo, urticaria, and some cases of alopecia.—Pr. xxv.50; xxvi.128; M.T.G. ii./80,554.

In asthma, doses of $\frac{1}{5}$ to $\frac{1}{3}$ grain of the hydrochlorate, hypodermically, given systematically at intervals, is very serviceable.—B.M.J. i./80,917,960.

Action on pupil of eye is double, both dilates and contracts it, causes contractions by stimulating the third nerve.—L. ii./80,779; ii./86,183.

Puerperal convulsions treated by injection of Pilocarpine, pains became stronger, fœtus expelled, and rapid recovery.—B.M.J. i./81,511; L. ii./86,1019.

Atropine poisoning successfully treated by pilocarpine.—B.M.J. i./80,366; i./81,300; i./90,420; L. i./81,951.

Pilocarpine is an antidote to morphine, having exactly opposite effects on the blood-pressure, respiratory centre, and cerebrum.—L. i./89,497; P.J. 1889,703.

Fetid perspiration of the feet is cured permanently by hypodermic injection of Pilocarpine.—L. i./81,638; Pr. xxvii.461.

In diphtheria, notice of its use, combined with pepsin and hydrochloric acid; the abundant salivation detaches the membrane, &c.—L. ii./81,962; Pr. xxvi.378,461; xxix.62.

Syphilis, 32 cases, 78 per cent. cured by Pilocarpine injections.—Pr. xxvii.380.

Action of injections of Pilocarpine on the hair, in one case changed colour from blonde to black, in another caused rapid growth.—L. i./82,78; B.M.J. ii./89,779.

Cases of hydrophobia treated successfully by hypodermic injection.—L. i./82,1056; M.R. 1883,146.

In a case of locomotor ataxy, the hypodermic injection relieved the pain after morphine had failed.—L. ii./82, 909; B.M.J. i./89,119.

In deep-seated diseases of the eye, optic neuritis, with symptoms of meningitis at the base of the brain, and in conjunction with antisyphilitic treatment in specific eye diseases is often useful.—B.M.J. ii./82,684.

Recommended for myxœdema.—L. ii./83, 951; B.M.J. ii./83, 1071; ii./84,681.

Successful in diabetes.—L. ii./84,275; Pr. xlv.377.

Intense headache, from syphilitic lesion of brain, relieved by subcutaneous injection of $\frac{1}{5}$ to $\frac{1}{2}$ grain of hydrochlorate of pilocarpine.—Pr. xxxii.261.

Hiccough checked by $\frac{1}{4}$ grain.—B.M.J.ii./85, 1158.

Traumatic tetanus, 3 cases cured.—B.M.J. i./86, 1276; Ed. M.J. 1887,848.

Restored secretion of milk, $\frac{1}{4}$-grain doses.—L.ii./85,885.

Politzer recommends its use in syphilitic disease of the labyrinth, but cautions against its abuse.—L.i./91,11; Pr. xlvi.457; B.M.J. ii./90,86.

Successful use in deafness.—L. ii./88,130; ii./89,643; i./92,701; B.M.J. ii./89,220,285,286; i./90,234,1125. Unsuccessful cases.—B.M.J. ii./89,129,286.

Relieves itching of jaundice, and assists passage of gallstones.—Pr.xlii.210; B.M.J.i./89,119; L.i./89,1157.

Severe cold cured by one dose of $\frac{3}{10}$ grain internally, but excessive perspiration, salivation, and strangury caused.—L. i./90,63.

Pilocarpine useful in chronic articular rheumatism. Th.Gaz. 1890,461.

Useful in uræmia, $\frac{1}{6}$ grain doses to induce profuse diaphoresis.—B.J.M. ii./90,391; Pr. xlv.464.

Œdema of glottis removed by three injections of pilocarpine, together $\frac{1}{25}$ grain.—Th.Gaz. 1891,485; M.C. Oct. 1891,60.

Poisoning by 4 grains treated by atropine.—B.M.J.E. ii./91,157; P.J. 1891,454.

Of great use in chronic thickening of the skin, chronic eczema and prurigo senilis, useless in psoriasis and subacute eczema.—B.M.J. i./92,265.

JALAPA (*Off.*).

Jalap. *Dose.*—10 to 30 grains.

Extractum Jalapæ (*Off.*) Semi-alcoholic. *Dose.*—5 to 15 grains.

Jalapæ Resina (*Off.*) and P.G. III. *Dose.*—2 to 5 grains.

This contains Mayer's two glucosidal resins, chiefly **Convolvulin**, insoluble in ether, with his **Jalapin** (**Orizabin** of Flückiger), soluble in ether. The latter, the principal constituent of spurious Jalap (*Ipomœa simulans* and *I. orizabensis*), is identical (? nearly) with **Scammonin** (*dose*, 1 to 5 grains) from scammony root. **Jalapin** of British makers (*dose*, 1 to 5 grains) consists of the mixed decolorized resins, in whitish amorphous powder (the Jalapurgin of Maisch and Flückiger), obtained from true Jalap; unfortunately Mayer's **Jalapin** (**Orizabin,** *dose*, 2 to 6 grains), being cheaper, has tended to replace it, but is a less active purgative. The official resin is said to be more active than either.

Sapo Jalapinus, P.G. III. *Dose.*—2 to 6 grains. Jalap Resin 4, Medicinal Soap 4, Spirit 8. Dissolve and evaporate to 9.

Pilula Jalapæ, P.G. III. Jalap Soap 3, Jalap in powder 1. In pills of 0·1 gramme each (1½ grains). *Dose.*—1 to 3.

Pulvis Jalapæ Compositus (*Off.*). *Dose.*—20 to 60 grains.

Tinctura Jalapæ (*Off.*). *Dose.*—½ to 2 drachms.

JAMBUL.

Dose, in cachets, 5 to 30 grains increased.

The seeds of *Eugenia Jambolana* (*Syzygium Jambolanum*), also known in India as **Jamun,** have been used in cases of diabetes, and are said to check the diastasic conversion of starch into sugar. May be administered in powder, or in pills or cachets.—B.M.J. i./87,617; ii./87,1459; i./88,901,1112; L. ii./87,604, 733; i./88,868; P.J. 1888,921,508; Pr.xl.450; xli.416.

Extractum Jambul Liquidum. 1 = 1 of seeds. *Dose.*—½ to 2 drachms.

References.

Controlled diabetes induced by phloridzin.—L. ii./89. 02; C. & D. ii./89,85.

Always reduced sugar present, but in no case removed it entirely.—Pr. xlvi.456; B.M.J.E. i./91,103; i./92,11; M.C. May, 1891,136.

Is of value in diabetes; doses of 450 grains daily.—M.C. Feb. 1892,321.

Recommended by Therapeutic Committee, B.M.A., for trial, in doses of 1 drachm to 1 ounce of fresh powder daily, with requisite modifications of diet.—B.M.J. ii./91,1284.

Acted almost specifically in reducing amount of sugar present; advantageously combined with meat diet.—B.M.J.E. i./92,89.

JUGLANDIN.

Dose.— 2 to 5 grains, in a pill with mucilage.

The powdered extractive obtained from inner bark of root of butter-nut, *Juglans cinerea.* Colour dark brown. Is laxative and cathartic, without debilitating, useful in habitual constipation and biliousness.

A moderately powerful hepatic and mild intestinal stimulant.—B.M.J. i./79,177; Pr. xxiii.337.

Spiritus Nucis Juglandis, distilled from the walnut, *Juglans regia,* is used as an antispasmodic, and for checking sickness of pregnancy. *Dose.*—1 to 4 drachms.

Kairine.—See p. 132.

KAOLIN PRÆPARATUM.

Prepared Kaolin.

Native white silicate of alumina, which has been purified by elutriation from free silica and undecomposed felspar; it is a pearly white powder, unctuous to the touch and free from grittiness. It forms a useful absorbent powder to apply to infants and to irritated conditions of the skin generally. A special preparation, agreeably perfumed, having similar chemical and physical properties, is sold under the name of Cimolite. It is a pure white soft powder. Kaolin is unacted upon by most chemical reagents; it is, therefore, useful for diluting such salts as nitrate of silver and permanganate of potassium, either to form them into powders or into pills.

Unguentum Kaolin.

Vaseline 1, Paraffin 1; melt, add Kaolin 1, and stir till cold. Spread on rag to apply to abraded skin, it allays irritation. It forms a useful excipient for nitrate of silver and permanganate of potassium pills.—See p. 267.

Absorbent Powders.—In addition to Kaolin the following are used medically:—

Compound Boracic Acid Powder.—See p. 4.

Fuller's Earth, also a native silicate of aluminium, with traces of iron, grey in colour when in powder.

Talc, a native foliaceous silicate of magnesium; that obtained from the Tyrol—Venetian Talc—is very soft and unctuous.

French Chalk, a harder silicate of magnesium than talc, forms a soft powder.

Selenite, a transparent variety of gypsum, native sulphate of calcium reduced to powder, is soft and pearly.

Kieselguhr, a diatomaceous earth, known as white peat; when burnt produces an extremely light ash, which is very absorbent and antiseptic.

Oxychloride of Bismuth.—See p. 82.

Oxide of Zinc, various **Starches,** powdered **Orris Root,** and mixtures of these, perfumed, are employed for toilet purposes.

Calamina Præparata, Prepared Calamine (*Off.*).

Syn. LAPIS CALAMINARIS PRÆPARATUS.

Impure oxide of zinc prepared by calcining native Calamine (carbonate of zinc) and reducing it to an impalpable powder; should be almost entirely soluble in diluted sulphuric acid, to which solution, when potash or ammonia is added in excess, the precipitate first formed is redissolved. Genuine Calamine, on account of its physical characters, when of a neutral flesh tint, is preferred to the other zinc powders, as a dusting powder or for making lotions.

Ceratum Calaminæ, P.L.

Syn. TURNER'S CERATE.

Calamine and Yellow Wax, of each 15, Olive Oil 40. A useful application to burns.

Linimentum Calaminæ, G.H.

Prepared Calamine 20 grains, Oxide of Zinc 15 grains, Lime Water 4 drachms, Olive Oil to 1 ounce.

Lotio Calaminæ, U.C.H.

Levigated Calamine 40 grains, Oxide of Zinc 20 grains, Glycerine 20 minims, Water (or Rose Water) to 1 ounce. Elutriate the calamine and oxide of zinc by triturating them in a mortar with successive portions of the water and decanting from the siliceous matter, and add the glycerine. Used in eczema, especially where the surface is red and tender, also to conceal acne spots on the face. One grain of perchloride of mercury may be added to 6 ounces of it.

Unguentum Calaminæ (*Off.*).

Prepared Calamine 1, Benzoated Lard 5.

LANÆ ADEPS.

Adeps Lanæ. Wool Fat (*Off.*).

(ANHYDROUS LANOLINE, *in former editions.*)

The purified cholesterin fat of sheep's wool. A yellowish, tenacious, unctuous substance, almost inodorous, melting from 100°F. to 112°F.

Adeps Lanæ Hydrosus. **Hydrous Wool Fat** (*Off.*).

Commonly known as "Lanoline," a trade mark. Wool Fat 7, Distilled Water 3. Melt and mix.

Yellowish white, free from rancid odour. If heated the watery portion separates from an upper oily layer. More water may be incorporated with it without affecting its consistence. It is partially soluble in alcohol, while ether and chloroform dissolve only the fats it contains.

Agnine is the name given to a similar substance of American origin.

Originating from keratinous tissue, Lanoline has affinity for, and is readily absorbed by, the skin. It causes no irritation, and is useful in massage. It helps absorption of narcotic extracts, quinine, iodine, iodide of potassium, and chaulmoogra oil. Iodine appears in the urine in three minutes after friction. Washing the skin with ether facilitates its absorption. It is more readily absorbed in children than in adults. Useful combined with chrysarobin in psoriasis, ringworm, and tinea favosa, and with salicylic acid for eczema; or with mercury, as in

Lanolinum Hydrargyri.

Mercury 100, Lanoline 200, Mercurial Ointment 5, Mutton Suet 50. This is said to have special virtues for inunction.—M.P.C. ii./86,327.

Sapolanoline. Lanoline 5, Soft Soap 4.

Recommended for acne and eczema.

Unguentum Lanolini, Lanoline Ointment.

Anhydrous Lanoline 65, Soft Paraffin or Vaseline 30, Hard Paraffin or Ceresin 5; melt and incorporate Water 30. May be perfumed to form **Lanoline Cream.** These are much less sticky than Lanoline. More water can be used if desired.

Lanoline Cold Cream. Lanoline 1, Benzoated Lard 2, Rose Water 3.—L. i./90,1458.

Thilanin, a sulphuretted lanoline, containing 3 per cent. of sulphur, is a yellowish unctuous substance, resembling vaseline in appearance; valuable in skin diseases on account of non-irritant property.—P.J.1891,426; B.M.J.E.i./92,32; Th.Gaz.1892,55.

Essay on Lanoline by Liebreich; its characters and uses.—B.M.J. ii./85,1075; B.M.J. ii./86,1757.

Mercurial taste has been perceived in mouth in a few minutes after inunction of Lanoline containing 1 of corrosive sublimate in 1,000 parts.—B.M.J. i./86,97; ii./86,1178.

Alkaloids are absorbed with special readiness from this basis.—L. ii./86,31.

Its rapid absorption is due to the similarity between it and the natural fat of man's epithelium.—B.M.J. ii./86, 572.

Lanoline is unfavourable to the percolation and development of micro-organisms. If mixed with mercuric chloride is as efficacious as an aqueous solution of the salt.—B.M.J. ii./88,1059; L. i./89,853.

While favouring local action of incorporated substances, it retards their absorption.—P.J. 1889,865.

Experiments with lard, lanoline, and vaseline, showing lanoline to be the slowest, vaseline the quickest, basis for drugs requiring absorption.—P.J. 1890,206.

LEPTANDRIN.

Dose.—¼ to 2 grains in a pill.

A dark greenish brown resinoid powder obtained from culvers root, *Leptandra virginica.* It excites the liver and promotes flow of bile, without any irritation of the bowels—½ to 2 grains twice or three times a day. Is useful in dyspepsia, diarrhœa, and cholera infantum.

One grain is a very useful cholagogue and alterative; 2 grains have an aperient action; acts well combined with podophyllin in bilious headache.—B.M.J. ii./76,113.

On dog a moderate hepatic, but feeble intestinal stimulant.—B.M.J. Rep. 1878,66; Pr. xxiii.410.

Aperient, alterative, and tonic to the stomach, has been given in diarrhœa and dysentery.—L. ii./62,239.

Lipanin.—See Oleata, p. 294.

LITHIUM.

Lithii Benzoas, Benzoate of Lithium, U.S.
Dose.—2 to 10 or 30 grains.

Usually a light white crystalline powder, soluble 1 in 4 of water; contains about 95 per cent. of benzoic acid. Used as an antilithic.

Lithii Bromidum, Bromide of Lithium, U.S.
Dose.—5 to 15 grains.

A white granular salt, very deliquescent, odourless, having a sharp, somewhat bitter taste and neutral reaction; very soluble in water and alcohol. A given weight contains nearly half as much more of bromine as the same weight of bromide of potassium, and its effect as a bromide is said to be even greater than this ratio, especially as a hypnotic, and in epilepsy.

Lithii Carbonas (*Off.*). *Dose.*—3 to 6 grains.

Lithii Citras (*Off.*) *Dose.*—5 to 10 grains.

Granular Effervescent Citrate of Lithium.
Dose.—1 or 2 drachms. Contains 1 in 30.

Lithii Guaiacas, Guaiacate of Lithium.
Dose.—5 grains twice a day.

Prepared by digesting guaiacum resin in an aqueous solution of lithia, decanting the clear solution, evaporating, and scaling it. Contains lithia 1, guaiacum resin 3. Given for chronic gout and rheumatism.

Lithii Hippuras, Hippurate of Lithium.
Dose.—5 to 20 grains.

In light white minute crystals, freely soluble in water, is a powerful solvent of lithates; useful in gout and rheumatism.

Lithii Salicylas, Salicylate of Lithium, U.S. *Dose.*—5 to 20 grains for rheumatism and gout. A deliquescent white powder, soluble 1 in 1 of water.—L. ii./85,1161; Y.B. 1886,72.

Granular Effervescent Salicylate of Lithium contains 1 in 30. *Dose*—1 or 2 drachms.

Lithii Sulpho-Ichthyolas.—See p. 235.

LUPULINUM.

Lupulin (*Off.*).

Dose.—2 to 5 grains in pill, with glycerine and spirit. The bright brownish yellow, or yellowish brown glandular powder—lupulinic glands—separated from the strobiles of the hop—*Humulus Lupulus.* It is aromatic and bitter, and contains most of the active properties of the hop—the resin and volatile oil. Should not yield above 15 per cent. of ash. It is used in insomuia and for alcoholism.

Tinctura Lupulinæ, U.S., 1870. 1 in 8 S.V.R. *Dose.*—10 to 60 minims.

Tinctura Lupuli (*Off.*) *Dose.*—½ to 2 drachms. Is prepared from the dried Strobile 1 in 8 S.V.T. A much more aromatic preparation is made from the fresh fruit.

LYCOPODIUM.

Clubmoss Spores.

The spores of *Lycopodium clavatum*, common clubmoss, form a fine, mobile, inodorous, tasteless powder, with a pale yellow hue. Lycopodium is a strong repellent of aqueous moisture, floats on water, yet sinks in it after boiling. By strong trituration it coheres and leaves an oily stain on paper. It is immediately moistened by oily and alcoholic liquids, chloroform and ether, and, having great power in absorbing oils and oleo-resins, it is a useful excipient to form these into pills. It forms a good pill powder, protecting hygroscopic pills, is useful as a diluent for insufflations for the throat and ear, and as an inert dusting powder for excoriated and weeping surfaces of the skin. When ignited, it explodes with a flicker. Has been given in cases of frequent micturition, and irritation or spasm of the bladder.—L.ii /87,605; B.M.J.ii./90,1246; Pr. xlvi. 218.

Tinctura Lycopodii. *Dose.*—15 minims to 1 drachm. Lycopodium, first soaked in ether and dried, 1, Rectified Spirit 10.

MALTUM.

Malt.—*Syn.* BYNE.

Malted barley contains the ferment Diastase, which possesses the property, under certain conditions, of converting starch into dextrin and sugar (maltose). Malt flour and other preparations of malt are used medicinally to assist the digestion of starchy foods.

Malti Pulvis. *Dose.*—1 to 2 drachms.

Malt flour or entire malt powdered, is added to baked wheaten flour in various proportions to form the popular infants' foods. When these are mixed with hot water or a mixture of hot milk and water, the starch contained in the wheaten flour becomes soluble and digested into dextrin and malt sugar. The diastasic property of malt is most acute in aqueous solution at 140° F.—a boiling heat destroys it. A small teaspoonful of malt flour may be sprinkled over or mixed with cooked farinaceous foods, such as porridge, gruel, bread and milk, or arrowroot, when cool enough to sip, or it may be infused in a cup of coffee, glass of beer, or cold water; the latter form pleasant and useful beverages when taken with meals, to assist the digestion of bread or other farinaceous food.

Extractum Malti, U.S.—*Syn.* EXTRACTUM BYNES. *Dose.*—1 to 4 drachms.

A syrupy, yellowish brown liquid, having a pleasant sweet taste, consisting principally of dextrin and malt sugar (maltose), and possessing some diastasic properties. It is made by mixing malt with tepid water, pressing, filtering, and evaporating below 131° F. Extract of Malt and its preparations are prescribed in cases of debility of all kinds, as a restorative, like cod liver oil, but particularly where digestion is weak.—

B.M.J. i./79,683; L. i./79,125; M.T.G. ii./78,529; Pr. xxxii.340.

Extract of Malt useful to suspend, and mask taste of, insoluble and resinous substances, such as guaiacum, cannabis indica, naphthalin, and copaiba.—P.J. 1891,64.

Extractum Malti Liquidum, Liquid Extract of Malt. *Dose.*—1 to 4 drachms.

In place of evaporating malt infusion to the viscosity of the last preparation, if it be concentrated until it has sp. gr. 1·375, and about 7 per cent. of alcohol added, making the finished product of sp. gr. 1·250, a liquid extract is formed which is more convenient for administration. It is stable, and should contain the diastasic properties uninjured by heat.—P.J. 1890, 417.

Extractum Malti Ferratum, G.H.

Pyrophosphate of Iron 2, Water 3. Dissolve and add Extract of Malt 95. *Dose.*—1 to 4 drachms.

Extractum Malti cum Oleo Morrhuæ.

Dose.—1 to 4 drachms.

The percentage of oil in this preparation is variable and it quickly turns rancid; a little salicylic acid is often added to prevent it becoming so.

Infusum Malti.

Malt, bruised, 3 ounces, Cold Water 10 ounces. Infuse 12 hours, and strain to produce 7 ounces.

Dose.—2 to 4 drachms with meals, in water or milk, or added to cooked gruel or porridge (Pr. xxiii.401). This infusion is rich in diastase but keeps badly; a minim of chloroform added to each ounce will keep it.

MANGANESIUM.

Manganese.

Manganesii Oxidum Præcipitatum.

Dose.—3 to 10 grains, or more, in pills with syrup.

Consists principally of hydrated manganic oxide, a bulky blackish brown powder, free from grittiness and entirely soluble in cold hydrochloric acid. Useful in gastrodynia, and in amenorrhœa taken 3 or 4 times a day before expected period.—L. i./83, 7.

In chlorosis assists the action of iron salts.—B.M.J. ii./85,473.

Is equally potent for amenorrhœa and less irritant than the permanganates.—B.M.J. ii./86,1114.

Manganesii Hypophosphis, Hypophosphite of Manganese. *Dose.*—1 to 10 grains.

A white or slightly rose-tinted powder, soluble in 10 of water.

Manganesii Phosphas, Phosphate of Manganese, Manganous Phosphate.

Dose.—1 to 5 grains.

A white powder, generally with a pinkish tint, insoluble in water. From ½ to 1 grain is sometimes dissolved in 1 drachm of syrup of phosphate of iron for a dose.

Manganesii Sulphas, Sulphate of Manganese. Manganous Sulphate. *Dose,* of powder.—2 to 10 or 60 grains or more.

Is usually met with as a white powder with a faint pink tint, due to a little manganic sulphate. Crystals may be obtained with difficulty, in form like ferrous sulphate but with an amethyst tint. For jaundice, 60 grains is a cholagogue purgative.

It does not excite the liver, though it is a powerful excitant of the intestinal glands of the dog.—B.M.J. i./79,105,177.

Potassii Permanganas, Permanganate of Potassium (*Off.*).

Dose.—1 to 5 grains in well-diluted solution, or in pill.

The deoxidising and disinfecting properties of a solution of this salt are well known. The official solution contains about 1 per cent. The **Saturated Solution** 1 in 20 is more convenient for use. It is deep purple, and, when much diluted, crimson. Diluted 500 times, it is suitable for a lotion or gargle, or for pouring down sinks, drains, &c. It has the advantage over other disinfectants in having this distinctive colour, so that it cannot be mistaken for any other medicine; it has no disagreeable odour, and besides being a deodoriser, it quickly disintegrates all fetid and decomposing organic substances and albuminoid bodies, whether in a solid form or in solution, living or dead, with which it comes in contact. It destroys bacteria with great rapidity.—Jour. Chem. Soc. xxxix. 258; P.J. 1881,765.

Permanganate of potassium is used for dyeing white hair to a chestnut brown colour.

In amenorrhœa, 1 or 2 grains, in a pill 3 or 4 times a day for a few days before the time of the expected period, will bring on the flow almost to a certainty.—L. i./83,7; i./85,59,70,189,322,647,925; i./88,642; B.M.J.i./85,778.

In gonorrhœa, solution of ½ grain in 1 ounce recommended as an injection.—L. i./83,45,86.

Danger of ulceration being caused by permanganate tablets.—B.M.J. i./85,308,413,516,764,974.

Amenorrhœa following sea voyages, quickly relieved by its use.—Ed. M.J. March, 1887,848.

Nine cases associated with mental disease, six cured. Pills should be taken regularly for three months.—Pr.xl.428.

Abortion brought on by its use, two cases.—Th. Gaz. 1887,282,356.

Four grains three times daily after meals checks excessive menstruation and relieves leucorrhœa.—B.M.J. ii./89,125; Th. Gaz. 1889,557.

For counteracting serpents' venom.—L. i./83,768, 967; ii./83,461; i./84,288; i./88,1007,1115.

Nine cases of rattlesnake poisoning treated successfully by free injection of 15 per cent. solution. Quantity used up to 90 grains. Free incisions and multiple injections necessary.—Th. Gaz. 1892,9.

A successful antidote to phosphorus.—See p. 315.

Pilula Potassii Permanganatis.

Permanganate of Potassium ... 1 gr., or more if ordered.
Kaolin Ointment (p. 259) ... *q.s.*

To make a pill, care must be taken not to triturate Permanganate of Potassium with any easily oxidised substance, like sugar, syrup, or glycerine, else spontaneous combustion may occur. The pills may be coated with sandarach solution and rendered tasteless. A solution of Permanganate of Potassium is very nauseous.—L. i./83,81, 107; P.J. 1883,580,600,620.

Permanganate of Sodium, in solution, green in colour, is used as a cheap disinfectant, and **Permanganate of Zinc**, in deliquescent dark brown iridescent crystals, like the Potassium salt, is used for lotions and injections, where the astringent action of the zinc is indicated.—See p. 408.

Permanganate of Calcium is preferred for making mouth lotions, as it has least taste.

Liquor Ferro-Manganesii Peptonati.—See p. 201.

MENISPERMIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive of a pale brown colour obtained from the root of yellow parilla—*Menispermum fenestratum*—and *M. canadense.* Is an alterative tonic, laxative, diuretic, stimulant, and resolvent, useful in indigestion.

Pilula Menispermin. 2 grains in each.

Taken 3 times a day, is a tonic, laxative, diuretic, and alterative.—L. ii./62,20.

On the dog is a slight intestinal, but not a hepatic stimulant.—B.M.J. ii./78,909; Pr. xxiii.423.

MENTHOL.

Menthol (*Off.*).

Dose.—½ to 2 grains or more in a pill with powdered soap, or in solution in olive oil.

A white crystalline stearoptene resembling sulphate of magnesium in appearance if dry, or in long needles, sometimes in crystalline masses, moist from adhering liquid oil. Imported principally from Japan and China, and obtained from *Mentha arvensis, vars. piperascens et glabrata*, it melts when pure at 97° F. It is contained in solution in Menthon, the residual liquid of Japanese peppermint oil, to the extent of 40 per cent., from which it may be separated by the action of hydroxylamine. The remaining Menthon may be converted into Menthol by the action of sodium on its ethereal solution. It is insoluble in glycerine, but soluble 3 in 2 of rectified spirit, also freely in ether, chloroform, and fixed and volatile oils; sparingly soluble in water, but imparts to it the strong odour and taste of peppermint. It produces a warmth and glow on the tongue, and sensation of coolness on drawing the breath over it. Given internally, it acts as a diffusible stimulant. Its solutions, applied topically to the skin in a similar manner, affect the nerves of the part somewhat like aconite, and form useful pigments for neuralgia, having the advantage of being non-poisonous. It has powerful antiseptic properties, but is not caustic; its action more resembles that of an anæsthetic, and gives great relief in prurigo. The moist variety is put up and sold, moulded into sticks and pencils, for relieving neuralgia; this kind of Menthol, having a low melting point, liquefies when gently rubbed on the painful part. **Pipmenthol** is obtained from American oil, and has a melting point of 104° F.

Equal parts of Menthol and Thymol rubbed together liquefy and form an oily liquid, and similar liquefactions take place on triturating respectively equal parts of Menthol and Absolute Phenol, equal parts of Menthol and Chloral Hydrate, 3 parts of Menthol and 2 parts of Camphor, 2 parts of Menthol and 1 part of Butyl Chloral Hydrate, and 2 parts of Menthol, with one of each Carbolic Acid and Butyl Chloral Hydrate. These form colourless transparent oily fluids; when applied on cotton wool are useful for relieving toothache arising from carious teeth, or preparing them for stopping; the pain is promptly relieved, and all symptoms obtunded during the process of filling. Its Camphor and Phenol combinations are used to medicate oro-nasal and other dry inhalers.

Menthol Camphor, diluted with a heavy mineral oil, relieves swelling and irritability of nasal catarrh, contracts capillary blood-vessels of mucous membrane, reduces swelling, relieves pain and fulness of head, arrests sneezing, checks excessive discharge, and corrects perverted secretion.—Th. Gaz. 1892,64.

Emplastrum Menthol. Menthol Plaster (*Off.*). Menthol 2, dissolved in melted Yellow Wax 1, and Resin 7. Useful for rheumatism and intercostal neuralgia.

Gossypium Menthol.

Absorbent wool is impregnated with an ethereal solution of menthol, so as to contain when dry, 10 per cent. of the drug. Useful to plug the nostrils in catarrh.

Linimentum Menthol.

Menthol 8, Chloroform 4, Olive Oil *q.s.* to 16; is useful in lumbago, neuralgia, sciatica, and ringworm of the scalp.

Menthol cum Aconitina. Add Aconitine 1 grain, in Rectified Spirit 20 minims, to Menthol (melted) to make 300, 400, or 500 grains. Divide into 60-grain cones.—P.J.1887,252.

Mentholeate. Menthol 200 grains, Oleic Acid ½ ounce. Heat gently to dissolve. Useful in pruritus, etc., where absorption is desired.—Pr. xl.65.

Pastillus Menthol contains $\frac{1}{10}$ grain.

Pigmentum Menthol, G.H.—1 to Olive Oil 4. Painted or injected into the larynx, or even the trachea, produces good results in phthisis and laryngeal disease. Also applied on wool for ear affections.—Pr. xlvi.142. Solution (1 in 8) in liquid paraffin is used for spray or pigment for throat (see p. 311). A **Snuff** for nasal catarrh, consisting of menthol 1, chloride of ammonium 3, boric acid 2, gives great relief.—Ed.M.J. 1888, 625; B.M.J. ii./88,710; i./92,1003; Th. Gaz. 1889,546. Another formula: menthol 1, boric acid 10, ground coffee 10.

Tabellæ Menthol. *Dose.*—1 or 2, *ad libitum.* Contain $\frac{1}{10}$ grain menthol, combined with chocolate, the oil of which fixes it.

Tinctura Menthol Ætherea.

Menthol 1, Pure Ether to 8. Best applied with a glass brush.—See p. 43.

As an antiseptic and antineuralgic, 1 in 60 of rectified spirit, with a little oil of cloves added; useful in sciatica, intercostal neuralgia, and the crystals on cotton wool for toothache.—L. i./79,822; L. ii./79,335,376,448.

Sciatica, 3 cases relieved by applying alcoholic solution 1 in 20, might be used 1 in 10.—L. ii./79,750.

Ringworm of the scalp, recommended and used for with success, 1 part Menthol in 4 volumes of chloroform and 12 volumes olive oil.—L. i./81,241.

Useful in pruritus vulvæ, rubbed on solid; relief lasts several days, and congested colour disappears.—B.M.J. ii./88,491.

Useful in ½ to 1 grain doses in vomiting of pregnancy. Pr. xliii.450; B.M.J. i./90,1382; Th. Gaz. 1890,288, 504.

In acute affections of the nose and throat, stimulates the contraction of bloodvessels, arrests sneezing and discharge, and relieves pain and fulness of head, when inhaled by vaporisation or from a mouth-piece inhaler. It is antiseptic and germicide.—M.P.C. i./90,34.

Menthol with sugar (5 to 10 per cent.), useful in diphtheria at commencement; applied with camel's hair brush, the membrane being rubbed off. Solutions do not act so well.—Pr. xlvi.293; B.M.J.E. ii./90,30; M.C. May 1891,189.

Po-ho-yo.—Chinese oil of peppermint, not obtained from *Mentha piperita*, but having the odour of the British plant, is sold as Japanese Drops or *Gouttes Japonnaises* for the relief of neuralgia, in little bottles and cases, labelled with Chinese characters. It is much used by the Chinese and Japanese for the relief of neuralgia. A little should be smeared on the painful part, or applied on cotton wool to a carious tooth. It is rich in Menthol, which crystallizes and solidifies the oil when exposed to cold.

In phthisis and diphtheria, use of oil of peppermint as an antiseptic.—L. i./88,512,567.

MENYANTHES.

Bogbean.—*Syn.* BUCKBEAN; MARSH TREFOIL.

The leaves of this gentianaceous plant, *Menyanthes trifoliata*, are used by herbalists and others as a household remedy, as a pure bitter tonic, also as an emmenagogue antiscorbutic, vermifuge and febrifuge; large doses are purgative and emetic. They contain a glucoside menyanthin, which, under the influence of acids, breaks up into glucose, and menyanthol, a volatile product.

Infusum Menyanthis. 1 in 20.

Dose.—2 to 6 ounces taken hot, early every morning, for some weeks, if necessary; is recommended for functional amenorrhœa.—L. i./85,132,285.

Extractum Menyanthis et Glycyrrhizæ Liquidum.

Dose.—½ ounce in half a tumbler of hot water; this dose is equal to ¼ ounce of the drug, and has liquorice to cover its bitterness.

Metaldehyde.—See Aldehyde, p. 50.

METHYL CHLORIDUM.

Chloride of Methyl.

This gas is prepared in Paris and compressed into cylinders (in the form that nitrous oxide is generally supplied to dentists), for use as a local anæsthetic. The gas is emitted from the cylinder and, applied as a jet, freezes the part by the intense cold it produces.

Among the residual products obtained in the manufacture of alcohol from the molasses of beet-root sugar, is trimethylamine, which, when purified and converted into a chloride, is decomposed by the action of heat into chloride of methyl, ammonia, and trimethylamine again. These are conducted into vessels containing hydrochloric acid, the ammonia and trimethylamine form salts, while the gaseous chloride of methyl passes into a gasometer, from which it is compressed by an air-pump. The tension of its vapour not being high, and not increasing very rapidly with the temperature, under a pressure of about six atmospheres its liquefaction is easily effected. When allowed to escape from the cylinder into an open vessel, it begins to boil, and in a few moments the temperature of the liquid is lowered by the ebullition about 75 degrees Fahrenheit below the boiling point of the chloride. For medicinal use a pulveriser is attached to the portable cylinder, so that as the chloride is emitted it vaporises and produces intense cold. It can thus be applied in a direct stream which should fall obliquely on any part requiring its congealing action, either as a local anæsthetic or for relieving neuralgia, sciatica, and other affections. Without the use of a pulveriser the jet of gas is apt to take an uncertain direction, owing to the aperture becoming blocked with particles of ice.

The chief objection to this method is that the anæsthetised area cannot be sufficiently circumscribed. By the process of "stypage," tampons composed of cotton wool, surrounded by flock silk and then covered with thin silk, are saturated with Methyl Chloride, and applied to the part by means of wooden or vulcanite holders. After contact for some seconds the part becomes pale and anæmic, and diminishes in sensibility. If the tampon be then removed there is marked reaction, shown by congestion and slight itching; but if the application be continued for a few seconds longer, the skin assumes a white, dried, parchment-like appearance. This is the time to operate. Chloride of Methyl may be employed in all kinds of small operations—circumcision, opening abscesses, and in neuralgia, lumbago, muscular pains, gout, etc. In scraping lupus it is best applied by means of a camel-hair brush, as special parts can then be anæsthetised with perfect precision. For the above purposes the chloride should be contained in a glass tube surrounded by a vacuum, which prevents its quick volatilization, known as a "thermo-isolator." —B.M.J. ii./88,243; ii./89,888; P.J. 1889,256.

It is also used for freezing histological specimens previous to section cutting.

It has been used in the treatment of sciatica with success, also in articular rheumatism (acute and subacute), nodular and chronic rheumatism, stitches in the side, pleurisy, tuberculosis, and pneumonia. The spray is applied obliquely, not perpendicularly, on the cutaneous surface, and only for five or six seconds, else, if prolonged, blisters or eschars may result.—B.M.J. i./85,813. Sprayed on skin of face for neuralgia has been found useful.—B.M.J. i./86,714; L. i./88,489. Not adapted for general anæsthesia.—B. M.J. i./88,1211.

Painting surface with glycerine avoids ill effects on the skin.—Th. Gaz. 1889,116.

Cheaper and quicker than ether as a local anæsthetic.—Th. Gaz. 1891,604; B.M.J.E. ii./91,36.

Applied on camel's hair brush to scrotum for orchitis. —Ed. M.J. 1891,269; Th. Gaz. 1891,432.

The skin may first be rendered insensible by application of the chloride on cotton wool; anæsthesia is then slower. Results of use all satisfactory.—Ed. M.J. 1890,580; Th. Gaz. 1890,691.

METHYLAL.

Dose.—15 to 30 minims in aqueous mixture.

Is recommended as an anæsthetic and hypnotic. It is prepared by distilling methyl-alcohol with an oxidizing mixture of manganese dioxide and sulphuric acid, and treating the distillate with potash lye to separate methyl formate, which passes over with the Methylal. Methylal is a colourless, mobile, volatile liquid, Sp. Gr. 0·855, boils at 42° C., is slightly acid to litmus, has an odour recalling those of chloroform and acetic ether, and a burning aromatic taste, but produces a cold sensation when placed on the skin. It augments the heart-beats, slightly lowers the blood-pressure, and causes slower and deeper respirations. It is antidotal to strychnine, suspends the spasm, and has been given to relieve nervous stomachic pains,—1 in 60 to 100 parts of diluted syrup.—L. ii./86,888.

Topically as an anæsthetic, 1 in 6 of almond or olive oil, or with simple cerate.—Th. Gaz. Dec. 1887,821.

In angina, 9 parts with 1 of nitrite of amyl prolongs the action of the latter, and lessens its suddenness. L. ii./87,861; C. & D. ii./87,714; Asclepiad, Feb. 1887.

In delirium tremens, 21 cases, 15 minims of 10 per cent. aqueous solution proved useful in procuring sleep; in 6 by one injection; others after repetition every two or three hours.—B.M.J. i./88,481.

As an anæsthetic suggested admixture with ether.—M.P.C. 1887,417.

Inhalations do not affect the heart.—L. i./87,951.

Is unfitted for subcutaneous use.—B.M.J.i./87,1126.

Is very innocuous, but effect is soon lessened by use. —Pr. xxxix. 138; B.M.J. ii./87,895.

Given internally does not depress the heart.—B.M.J. i./88,481.

Methyl Violet.—*Syn.* **Pyoktanin.**—See p. 139.

METHYLENE.

Syn. Formerly called BICHLORIDE OF METHYLENE.

Under this name is sold an anæsthetic, which is a dense colourless ethereal liquid, with a chloroform-like odour. It is obtained by the action of metallic zinc on chloroform and alcohol.

Lectures on introducing it as an anæsthetic.—M.T.G. ii./67,423,479,559,693.

Is as suitable for long operations as chloroform.—L. i./71,591. Is peculiarly safe.—B.M.J. i./88,1211.

Used with most favourable results at Guy's Hospital.—L. i./71,634.

Given 1800 times without ill effects; it is more rapid in producing unconsciousness than chloroform, and quicker in passing off.—L. i./72,671.

By Junker's apparatus, air charged with methylene vapour is given, not the vapour itself, and, so employed, was efficient and safe.—B.M.J. ii./77,176.

Report on anæsthetics; it is a mixture; effect on rabbits described; its danger is from syncope, not coma. —B.M.J. i./79,1,3.

Deaths from inhalation of.—B.M.J. ii./74,823; ii./75,113; ii./84,826,975; ii./91,572; L. ii./90,768, 898; ii./91,486.

A commercial sample had Sp. Gr. 1·326, is said to be chloroform reduced to this density by alcohol.—N.R. xii.43; B.M.J. i./84,737.

Unqualified commendation after use in 1230 cases.—B.M.J. ii./88,72.

Agreeable to inhale; physiological action identical with that of chloroform; not advocated except where ether and nitrous oxide contra-indicated. Less safe than ether.—B.M.J. ii./88,203.

Report on anæsthetics;—methylene always reliable, safe, and not followed by dangerous symptoms.—Th. Gaz. 1890,593.

MOLLINUM.
Mollin.

A white inodorous superfatted soap, containing about 17 per cent. excess of fatty matter. It is of unctuous consistence, and is recommended as a basis for ointments in place of lard, lanoline, &c., as it is readily washed off with water, with which it forms a lather. It thus leaves the skin fresh and supple, and it makes no grease spots on linen. It is to be preferred to petroleum bases where absorption is required, and is specially recommended in combination with mercury, and with iodide of potassium, forming **Mollinum Hydrargyri** and **Mollinum Potassii Iodidi**; these contain 33 per cent. and 10 per cent. respectively of mercury and iodide of potassium. It is not even incompatible with perchloride of mercury, with which it forms a useful application for gynæcological cases in 1 per cent. admixture or weaker. It blends well with respectively 3 to 5 per cent. of carbolic and salicylic acid and thymol, and with tar (birch tar particularly) 10 to 20 per cent. for psoriasis;—with 30 to 50 per cent. of sulphur or 10 per cent. of storax for acne and scabies;—with 5 per cent. of chrysarobin or naphthol;—and with 10 per cent. of ichthyol, resorcin, iodoform, naphthalene, or white precipitate. Mollinum Hydrargyri and some of the other preparations are commercial products.

MORPHINA.

Morphine.

Dose.—$\frac{1}{10}$ to $\frac{1}{2}$ grain.

This alkaloid, to which the medicinal effects of opium are principally due, in the pure state is, if precipitated from an aqueous solution of its salts, a white amorphous powder, or, if crystallized from an alcoholic solution, is in white, shining, transparent acicular prisms, insoluble in water and ether, freely soluble in boiling and but slightly in cold alcohol and fixed oils; soluble in caustic potash solution, milk of lime, and readily dissolved by acids, forming salts, from solutions of which it is precipitated by ammonia, but not by potash. The crystallized alkaloid is a hydrate containing one molecule of water of crystallization; it loses about 6 per cent. on drying at 90° C. 3 parts of morphine are medically and commercially reckoned equal to 4 parts of either of the official salts (acetate and hydrochlorate). Morphine preparations are incompatible with those of perchloride of iron.

Report on morphine and derivatives:—all formed by displacement of hydrogen in the hydroxyl group have qualitatively the same physiological action, narcotic and tetanic; where hydrogen is displaced in the morphine nucleus, they only act as muscle poisons, not nerve poisons.—B.M.J. ii./90,189; P.J. 1890,81.

Oleatum Morphinæ.

A solution of the alkaloid morphine 1 grain in oleic acid 1 drachm, is sold under this name for local application to relieve pain. Sometimes it is ordered twice or three times the above strength. Oleic acid will dissolve as much as one-tenth of its weight of pure morphine. The addition of morphine is made to oleate of mercury applications when the latter cause much pain.—L. i./72,809.

Morphinæ Acetas (*Off.*).

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain, which may be increased.

In commerce a white amorphous powder, soluble 1 in

2½ of water (if recently made and not very dry), soluble also in spirit. Liable to change and darken in colour.

The dose of morphine and of opium is often much increased when persons become addicted to their use. The writer, under medical direction, for several years anterior to 1868, dispensed for a lady, who had previously been a dipsomaniac, 6 dozen powders weekly, each containing 2 grains of acetate of morphine and 6 grains of sugar of milk. She took on an average over 20 grains of the morphine salt daily for years. She had taken powders containing as much as 8 grains of pure acetate of morphine in each; the sugar of milk was added gradually to replace the morphine, hoping to break her of the habit, but this had only the effect of making her take an increased number of the powders, so as to obtain about the same amount of morphine to satisfy her craving. Other cases of tolerance of large doses.—B.M.J. ii./88,1279,1386.

In hypodermic morphine habit sulphate of sparteine is recommended to gradually replace the morphine solution, commencing with ⅓, increased to ⅔ grain, four to six times a day.

Injectio Morphinæ Hypodermica (*Off.*).

Dose.—1 to 5 minims; 10 minims = one grain of the acetate.

B.P. Reprint says "commencing with from 1 *to* 2 *minims."*

Is made by precipitating the alkaloid from 92 grains of hydrochlorate of morphine by means of excess of solution of ammonia, washing the precipitate and redissolving by adding acetic acid to make the mixture very slightly acid, further adding distilled water *q.s.* to measure exactly 2 fluid ounces, and then filtering. The Pharmacopœia states that 1 drachm contains 6 grains of acetate of morphine, corresponding to 4·25 grains of morphine when precipitated with ammonia and dried.

A solution, 1 grain in 6 minims, is also frequently used. Acetate of morphine becomes less soluble with age. It is necessary either to use it freshly prepared or to use an equivalent quantity of the pure alkaloid dissolved by means of acetic acid. The writer recommends the following process for producing the stronger injection.

Injectio Morphinæ Acetatis Hypodermica.

1 grain in 6 minims. *Dose.*—1 to 3 minims.

Morphine (pure alkaloid) ... 60 grains.

Place in an ounce vial and moisten with
Distilled Water ... ... 6 drachms.
Add
Acetic Acid ... ... 40 minims, or *q.s.*
To make the solution barely bright after being kept closed at a gentle heat for 24 hours. Then filter and sprinkle and wash the filter with sufficient
Distilled Water to make the
product measure exactly... 1 ounce.

Shake to make uniform, and keep the solution from the light in stoppered bottles, the stoppers of which should be coated by rubbing the ground part over with soft paraffin. If the stopper be then inserted firmly, it prevents any oozing or incrusting of the morphine around the neck of the bottle; a few drops of glycerine added, will, it is said, prevent any incrustation. It has a straw colour, changing to vinegar-brown on keeping.—P.J. 1870,481; B.M.J. ii./80,728; B.M.J. i./81,146.

Injectio Morphinæ et Atropinæ Hypodermica.

Injection of Acetate of Morphine
(1 grain in 6 minims) ... 3 drachms.
Sulphate of Atropine... ... 1 grain.

Dose.—1 to 3 minims. 3 minims contain half a grain of acetate of morphine and $\frac{1}{80}$ grain of sulphate of atropine. Some practitioners prefer to use it half this strength. Although atropine is in many respects antagonistic to morphine, yet, given in combination with it in small doses, the former increases the sedative action and counteracts the disagreeable effects of the latter on the head, stomach, and bowels. In R.O.H. 1 grain of the atropine salt is added to 6 drachms of B.P. hypodermic injection of morphine (1 in 10).

Hypodermic Lamels contain ¼ grain **Morphine** and ½ grain **Morphine** with $\frac{1}{120}$ grain **Atropine** respectively, combined with gelatine.

Ophthalmic discs contain $\frac{1}{500}$ grain **Morphine**, and $\frac{1}{500}$ grain **Morphine** with $\frac{1}{5000}$ grain **Atropine** respectively.

Liquor Morphinæ Acetatis (*Off.*).

Dose.—10 to 60 minims. Contains 1 per cent. of acetate of morphine in rectified spirit 24, distilled water 73, with 2 of diluted acetic acid.

Pastillus Morphinæ Acetatis ($\frac{1}{40}$ gr.).—See p. 211.

Pastillus Cocainæ ($\frac{1}{30}$ gr.) **et Morphinæ** ($\frac{1}{60}$ gr.) —See p. 148.

Pastillus Bismuthi Carbonatis cum Morphinæ Acetate.—See p. 211.

Morphinæ Hydrobromas.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

In commerce is met with as a white amorphous powder resembling the hydrochlorate of morphine in appearance. Sometimes administered with free hydrobromic acid as a sedative, and thought not to affect the head as much as other salts of morphine when given thus.

Morphinæ Hydrochloras (*Off.*).

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain, which may be increased. In a pill it may be combined with sugar of milk and glycerine of tragacanth.

In silky white flexible acicular prisms, but usually met with in amorphous white powder, soluble 1 in 26 of water. It is stable, and the most frequently used of the salts of Morphine.

Linctus Morphinæ, U.C.H.

Solution of Hydrochlorate of Morphine 3 minims, Spirit of Chloroform 3 minims, Treacle, Honey, or Glycerine 60 grains, Water to 1 drachm. May be more agreeably flavoured with syrup of lemon as a vehicle.

Dose.—A teaspoonful 3 or 4 times a day; or the dose may be repeated frequently at times when cough is troublesome, till the paroxysm is subdued. It should be taken undiluted, swallowed slowly, and allowed to hang about the throat. For children of 8 to 14 years, dose 10 to 20 drops. It is not suitable for very young children, or where there is difficulty of expectoration in bronchitis.

Liquor Morphinæ Hydrochloratis (*Off.*).

Dose.—10 to 60 minims, contains 1 per cent. of hydrochlorate of morphine in rectified spirit 24, distilled water 73, with 2 of diluted hydrochloric acid.

Suppositoria Morphinæ (*Off.*).

Contain $\frac{1}{2}$ grain of hydrochlorate in each. They are also usually kept, containing only $\frac{1}{4}$ grain, as well as other strengths.

Suppositoria Morphinæ cum Sapone (*Off.*).

Contain $\frac{1}{2}$ grain of the hydrochlorate in each also, but are never ordered, and have a bad basis.

Trochisci Morphinæ (*Off.*).

Contain $\frac{1}{36}$ grain of the hydrochlorate in each lozenge, with a sugar basis flavoured with tolu. They are more agreeable if made with black currant paste basis.

Trochisci Morphinæ et Emetin.—See p. 251.

Trochisci Morphinæ et Ipecacuanhæ (*Off.*).

Contain $\frac{1}{36}$ grain of the hydrochlorate of morphine, with $\frac{1}{12}$ grain of ipecacuanha in each. These lozenges are often given to allay cough—one 5 or 6 times a day.

Morphinæ Meconas.—Meconate of Morphine.

Dose.—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

This is the natural salt of morphine existing in opium, and, when pure, is in white minute acicular crystals, soluble 1 in 34 of water. It is said to disturb the head less, as well as derange the stomach and bowels less, than the other salts of morphine administered either by the mouth or hypodermically.

Liquor Morphinæ Bimeconatis (*Off.*).

Dose.—5 to 40 minims.

The tedious official process may be simplified as follows:—

Morphine (pure Alkaloid) ...	14½ grains.
Meconic Acid	12 grains.
Rectified Spirit	1 ounce.

Mix and add

Distilled water to	4 ounces.

A perfect solution is formed instantly. One ounce is said to contain about 5½ grains or 1¼ per cent. of bimeconate of morphine, and as regards this is about the same strength as tincture of opium.

Morphinæ Sulphas (*Off.*). *Dose.*—$\frac{1}{8}$ to $\frac{1}{2}$ grain.

In hard white silky acicular crystals, is a stable salt of morphine and the one preferred in the United States. Soluble 1 in 23 of water.

Liquor Morphinæ Sulphatis (*Off.*).

Dose.—10 to 60 minims.

Sulphate of Morphine 1, Rectified Spirit 25, Distilled Water to 100. Must be distinguished from that used in the United States, which contains 1 grain in an ounce of distilled water. A preparation known as Magendie's solution of morphine is also used in the United States; it is 16 times stronger than the last (containing 16 grains in the ounce). Magendie's solution in France is slightly stronger than that of the United States; it contains 1 part of acetate of morphine in 37½.

Morphinæ Tartras. *Dose.*—⅛ to ½ grain.

Neutral tartrate of morphine in commerce is a white amorphous powder resembling the commercial hydrochlorate. Readily soluble in water, 1 in 10; has been recommended for hypodermic injection.

Injectio Morphinæ Tartratis Hypodermica.
Dose.—1 to 6 minims.

Tartrate of morphine 30 grs., Distilled water 6 drs.

Hypodermic Lamels of Morphine Tartrate contain ⅙ grain, also ⅙ grain, combined with **Atropine**, 1/100 grain.

Antagonism of atropine, 1/20 grain = 1 grain of morphine in cases of poisoning; small doses of the former should be frequently repeated hypodermically.—B.M.J. i./81,239.

Antagonism of caffeine, coffee, tea, &c., to morphine. —B.M.J. ii./74,615,674,679,771.

Picrotoxin an antidote.—L. i./89,497; P.J. 1889,703.

Opium and morphine may poison infants through the mother's milk; see a case in B.M.J. ii./85,1159.

Administration of morphine previous to anæsthesia is not without danger from respiratory paralysis.—Pr. xxxix. 103.

Hypodermic injection close to affected joint successful in gout.—Pr. xl.61.

Puerperal convulsions, 1 grain injected successful in 2 cases.—B.M.J. i./89,588.

Discussion on the largest safe dose and the smallest fatal one.—B.M.J. i./89,895.

Morphine in diabetes as compared with Codeine;—more powerful, controlling the formation of sugar more completely; amount required only ¼ that of codeine; narcotic symptoms rarely follow when given every 3 or 4 hours by mouth (not applicable to hypodermic administration). (Mitchell Bruce). — Pr. xli.16; Th. Gaz. Sept. 1883,618.

These results confirmed by Fraser.—Pr. xlii.374; B.M.J. i./89,118; Y.B. 1890,307.

Morphine poisoning treated successfully by nitroglycerine.—B.M.J.E. ii./90,77. And by inhalation of oxygen.—B.M.J.E. ii./91,37.

MUSCARINÆ NITRAS.

Nitrate of Muscarine.

Dose.—(?) ½ to ¾ grain hypodermically causes free perspiration, &c., like Pilocarpine.

Muscarine is an uncrystallizable alkaloid obtained from the fungus, fly agaric—*Agaricus* or *Amanita muscaria;* it has also been obtained, as a derivative, from brain substance. Nitrate of Muscarine, the only preparation met with in commerce, is also uncrystallizable; it is a viscid, yellowish brown liquid, hygroscopic, and soluble in water.

It resembles Pilocarpine in action and is almost completely antagonistic to atropine, one exception being that, applied topically to the eye, it dilates the pupil, like gelsemium, but given internally it contracts it. It produces salivation, perspiration, flow of tears, and purgation.—R.; Pr. xxvi.5. Further, see Das Muscarin, Schmiedeberg und Koppe (Leipzig, 1869; F. C. Vogel).

Useful in checking night sweating. Ext. Muscariæ was used.—Pr. xxv.89.

Atropine is an antidote to the effects of poisonous mushrooms, 1/120 grain injected hypodermically and repeated if necessary until the dyspnœa is relieved.—B.M.J. ii./74,617.

Physiological experiments—its antagonism to atropine.—Trans. Med. Congress, 1881, i.508; B.M.J. ii./82,529.

Note on its physiological action.—L. i./83,336.

Poisons the heart-muscle itself, and the heart becomes arrested in diastole.—Pr. xxxix. 212.

Resemblance of symptoms of muscarine poisoning to those of cholera, and suggested use of atropine for the latter.—B.M.J. ii./74,617; i./89,1335.

MYRICIN.

Dose.—2 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive obtained from the bark of stem and root of bayberry, *Myrica cerifera.* Is astringent and stimulant, in large doses emetic—used in diarrhœa and jaundice.

On the dog is a very powerful stimulant of the liver. During the increased secretion of the bile, the percentage of the special bile solids is not diminished. If the dose be too large, the secretion of bile is not increased. It is a powerful intestinal irritant.—B.M.J. Rep. 1878,4; B.M.J. i./79,177.

NAPHTHOL.

β-Naphthol, P.G. III. —*Syn.* NAPHTHYL ALCOHOL.

Dose.—2 to 15 grains, in cachets.

A coal-tar derivative with a faint storax odour; when sublimed, is in white shining laminar crystals, soluble in alcohol, ether, chloroform, and benzene, sparingly soluble in hot water, but soluble 1 in 8 of olive oil and lard, and 1 in 80 of vaseline. Addition of boric acid increases solubility in water. Has the advantage in skin diseases generally of being odourless and colourless. It is a powerful antiseptic and germicide. In advanced scabies, an ointment of 10 to 15 per cent. cures the eczema as well as destroys the parasite, but the following ointment is preferred:—Naphthol 15, lard 100, green soap 50, prepared chalk 10. Useful also in psoriasis.—B.M.J. ii./81,612; B.M.J. i./82,47,156.

Naphthol 5, alcohol 100, glycerine 10, is a remedy for hyperidrosis of palms, soles, and axillæ.—Pr. xxxi.219.

Internally, useful in enteric fever; safe and efficient, but sometimes causes too much gastric disturbance.—Pr. xli.421; P.J. 1888,507; Th. Gaz. 1889,702.

Doses of 5 grains relieve constipation.—Th. Gaz. 1889,669.

Useful as insufflation in chronic suppurative affections of the middle car.—Th.Gaz. 1891,719.

A valuable antiseptic; useful in gastric disorders and diarrhœa of typhoid. Inhalations of service in pharyngitis, catarrh, and bronchitis.—Th.Gaz. 1889, 669; L. i./90,1407.

α-Naphthol has also been recommended as a powerful antiseptic, and as possessing only one-third the poisonous action of the β-Naphthol.

Is more irritant than β-Naphthol, but more soluble, more active, and less toxic. Five grains in a quart of water used to wash the intestines.—Th.Gaz. 1891,654.

Benzonaphthol.—*Syn.* Benzoyl-Naphthol.

Dose.—4 to 8 grains, in cachet or suspended in mixture. A white crystalline powder, tasteless, and with slight odour, obtained by the action of benzoyl chloride on β-naphthol. Soluble in alcohol and chloroform, nearly insoluble in water and ether. Is a powerful intestinal antiseptic and diuretic, being broken up into β-naphthol, which remains in the intestines, and benzoic acid, which is eliminated by the kidneys. Should be given in small quantities, frequently repeated.—P.J. 1891,426; Pr. xlvii.412; B.M.J.E. ii./91,150; Th.Gaz. 1892,55.

Microcidine.

A whitish powder, prepared by fusing β-naphthol with caustic soda; contains 75 per cent. of naphtholate of sodium, and 25 per cent. of mixed naphthol and phenol compounds. Is a powerful antiseptic, non-poisonous. Soluble 1 in 3 of water; solution 1 in 200 or 300 recommended for lotions and dressings.—P.J. 1891, 1067; B.M.J.E. i./91,167.

Naphthol cum Camphora. **Naphthol Camphor.**

β-Naphthol 1, Camphor 2, mix to form a viscid liquid, miscible with oils. It is a powerful non-toxic antiseptic for wounds, and is said to clean off the false membrane in diphtheria. A weaker preparation has been used with success as an interstitial injection in phthisis. Recommended to smear over and protect surgical instruments.—B.M.J. ii./89,791; P.J. 1888,247; 1889,62; Th.Gaz. 1888,841; 1889,674; C. & D. i./89,654.

Improvement in 32 cases of tuberculous adenitis, also in three of tuberculosis of testis, treated by interstitial injections of camphorated naphthol.—B.M.J.E. ii./91, 125.

Four cases of phthisis treated by intrapulmonary injection. Three successful.—M.C. May, 1890,129.

Naphthol-Acetate of Mercury.—See p. 225.

Hydronaphthol.

A commercial article is sold under this name as a specialty. It is in greyish-white crystalline powder, with a slight iodine odour. It appears to be of indefinite composition, but when purified by repeated crystallization, a substance corresponding to β-naphthol is obtained. It is recommended as a non-poisonous antiseptic in solution or dusting powder, and wool, gauze, and lint impregnated with it are also prepared as surgical dressings. Experiments as to its antiseptic value.—B.M.J. i./89,1047.

Use of hydronaphthol plaster and jelly in tinea tonsurans. —L. ii./89,1110.

Betol. *Dose.*—3 to 8 grains in cachets or pills, or suspended in almond emulsion or milk.

The salicylate of β-Naphthol-ether. Is in small tasteless and odourless, brilliant white crystals, insoluble in water, soluble in alcohol. Useful in rheumatism, cystitis, and intestinal catarrh.—Th.Gaz. 1887,774.

Bougies of Betol 1 part, cacao butter 4 parts, have proved useful in gonorrhœa.

Cachets containing 5 grains, with 5 grains of salicylate of bismuth, useful as an intestinal disinfectant. Is contraindicated in cases associated with renal disease.

Naphthalene.—*Syn.* **Naphthalin, P.G.** III.

Dose.—2 to 15 grains or more in cachets, or pills with mucilage.

A hydrocarbon formed in large quantities in the manufacture of coal gas. It is when pure in shining white rhomboid crystalline plates, with persistent, but little tarry odour; it is insoluble in water, acidulated or alkaline, but is soluble in ether, hot alcohol, and in fats, fixed and volatile oils. May be given in malt extract.

Moulded into blocks or sticks, it is sold under various trade names, such as Alabastrine, for preventing moths; Camphylene, for disinfecting urinals and stables; and Albo-carbon, for increasing the luminosity of gas.

Naphthalene Tetrachloride.—*Syn.* NAPHTHALIN HYDROCHLORATE. *Dose.*—3 to 12 grains, in cachet or pills. In odourless and colourless rhombohedral crystals, melting at 182° C. insoluble in water.

α-Dichloronaphthalene, in small granular crystals, is obtained by the action of alcoholic potash on the above. Melts at 35° C.

As Naphthalene is not absorbed by the system it acts only on the mucous membrane of the bowels. It forms a valuable remedy in dysentery, catarrhal, typhoid, and phthisical diarrhœa.—Ed. M. J. April, 1888, 952; L. ii./87,777; ii./88,1252; ii./89,659. 8-grain enemata useful.—L. i./88,1327.

As an antiseptic has similar uses to iodoform, but has an unpleasant smell.—Th. Gaz. 1887,775.

Is painless in action, and promotes healing of ulcers.—B.M.J. i./86,217.

Given internally with success to lessen fœtor of urine and stools.—L. ii./86,744; ii./87,605.

Peculiar ocular defects (cataract) in guinea pigs.—Th. Gaz. 1888,260; L. ii./89,1024.

Used as a vermifuge in tænia and ascarides.—L. ii./86, 462; ii./91,141,1410; Ed. M.J. 1891,473.

Used in antiseptic dressings with success as an alternative to iodoform.—B.M.J. ii./82,1051.

A 10 to 20 per cent. solution in oil is successful as a parasiticide in scabies, but does not relieve the secondary eruptions.—L. ii./82,909.

Naphthalene of great temporary value in infantile diarrhœa and fetid urine.—L. ii./89,720,766.

Of service in typhoid, reduced temperature and checked diarrhœa.—B.M.J.E. i./91,189.

Vapour inhaled for whooping-cough useful.—L. ii./91, 1180; B.M.J.E. ii./91,189; i./92,3; M.C. Jan. 1892, 255.

NARCEINA.

Narceine.

Dose.—⅛ to ½ or 1 grain, in a pill.

An alkaloid obtained from opium in light white, flexible silky crystals. Has a slightly bitter taste—is a weak base, soluble 1 in 400 of water, very soluble in spirit, insoluble in ether. It is a soporific, produces no constipation, less headache and perspiration than morphine.—R.

More soporific than morphine and codeine, and the sleep more profound.—L. i./66,250.

Hypnotic use of, and to check cough of pertussis.—B.F.M. Ch.R. ii./66,526; Th.Gaz. 1888,359.

Causes sleep rather than allays pain, used as a sedative in violent cough.—B.F.M. Ch.R. i./67,527.

Prosopalgia (faceache) cured by hypodermic use of.—B.F.M. Ch.R. i./72,127.

The most soporific of the opium bases, and less poisonous than thebaine, codeine, and papaverine.—B.F.M. Ch.R. i./72,509.

Is a pure but feeble narcotic, 5 grains or more are required to produce slight tendency to sleep.—Pr. i./68, 289; P.J. 1887,882.

Tests for purity of.—P.J. 1889,1035,335,401.

NARCOTINA.

Narcotine.

Dose.—1 to 3 grains, or more, in a pill with glycerine of tragacanth.

An alkaloid obtained from opium, in white inodorous crystalline prisms. It is a very weak base, insoluble in water, soluble 1 in 3 of chloroform, 1 in 100 rectified spirit, 1 in 125 ether, soluble also in benzene. Possesses antiperiodic properties, like quinine, some considering it superior, in doses of 1 to 3 grains.—R.

Antiperiodic in remittent fever, 1½ to 3 grains; in doses of 10 grains, produces diaphoresis.—L. i./62,53.

In India, for ague, considered second only to quinine. —M.T.G. ii./62,203.

In 8-grain doses has no narcotic nor anæsthetic effect.—Rank. ii./72,125.

Physiological investigation; narcotine resembles morphine in action, but much weaker; while **Thebaine** more closely resembles strychnine than morphine. The nucleus of the molecule is probably the same in both, as well as their derivatives, methyl-thebaine and cotarnine. —B.M.J. i./91,157.

NICOTINA.

Nicotine.

Dose.—$\frac{1}{6}$ to 1 grain.

A colourless volatile liquid alkaloid, obtained from tobacco—*Nicotiana Tabacum*. Darkens with age, has a strong, disagreeable odour, soluble in water, more so in rectified spirit and ether.

Tetanizes the heart, has been highly praised for tetanus. Many recorded cases appear to show its usefulness in this disease.—R.

Physiological effects.—B.F.M.Ch.Rev. i./56,243.

Is an antidote to strychnine.—Rank. ii./66,225.

NITROGLYCERINUM.

Nitroglycerine.—*Syn.* GLONOIN; TRINITRATE OF GLYCEROL; NITRIC ETHER OF GLYCERINE (formerly considered as the Trinitrite of Glycerol or Nitrous Ether of Glycerine); TRINITRIN.

Dose.—$\frac{1}{200}$ to $\frac{1}{50}$ grain increased to $\frac{1}{10}$ grain.

This dangerous explosive substance proves to be of great medicinal use, especially in angina pectoris. It is obtained by gradually dropping pure glycerine into a mixture of sulphuric and fuming nitric acids kept cool by iced water. The Nitroglycerine is separated by pouring the mixture into a large quantity of water, and well washed by agitation with several supplies of cold water, till free from acidity. It is then collected as a dense, opaque, white, oily liquid, and carefully dried in thin layers in a warm room, when it becomes dehydrated, transparent, and colourless, and of Sp. Gr. 1·600. It drops in very small drops. It has no odour, yet is slightly volatile, has a sweet, aromatic, pungent taste, and produces headache, which, if dose be large, lasts some hours. It is slightly soluble in water, freely soluble in ether, 1 in 6 of almond oil, freely soluble in absolute alcohol, and 1 in 15 of rectified spirit. Three parts mixed with and absorbed by one part of an infusorial earth, so as to become solid, forms Dynamite, which is much used for blasting purposes. The alcoholic solution, containing 1 per cent., was first used medicinally; but, as complaints were made to the writer that it was inconvenient for patients to carry a liquid medicine about with them, as they were required to do, to ward off attacks of angina, he, having discovered that nitroglycerine was soluble in oils and fats, dissolved it in oil of theobroma and combined this with chocolate to form tablets, which he adjusted in strength to contain $\frac{1}{200}$, $\frac{1}{100}$, $\frac{1}{50}$, and $\frac{1}{25}$ grain of Nitroglycerine in each. Those containing $\frac{1}{100}$ grain are the most suitable for general use. The fatty basis can also be made into white transparent coated pills containing doses similar to the tablets. A one per cent. oily solution is recommended as being more stable than the alcoholic solution. Nitroglycerine, especially if not perfectly pure, is liable to explode spontaneously, but in fatty or oily solution it is perfectly safe and stable.

Nitroglycerine, in two minutes after taking a dose, accelerates the pulse, relaxes the arteries, produces a feeling of fulness all over the body, but particularly in the head by a throbbing at the sides of the temples. It also causes headache, which lasts from 15 minutes to several hours, according to the quantity taken; but to patients accustomed to its use the headache is not felt. In treating angina pectoris, neuralgia, asthma, headache, sea-sickness, and Bright's disease, its action is like nitrite of amyl, but its effects last much longer. For the weak heart of fatty degeneration and of old persons, this lessened tension proves valuable.

Nitroglycerine acts more powerfully than other nitrites, probably because the whole of it is absorbed without decomposition, and because the nitrous acid is thus set free in the blood itself.—Brunton.

Injectio Nitroglycerini Hypodermica.

Dose.—1 to 4 minims.

Nitroglycerine Solution (as below)	5 drachms.
Rectified Spirit...	2 drachms.
Distilled Water to	1½ ounces.

Contains about $\frac{1}{240}$ grain in 1 minim. Acts promptly; useful in collapse, &c., when the patient cannot swallow.

Successful in morphine poisoning.—B.M.J.E.ii./90,77.

Liquor Nitroglycerini, 1 per cent. **Solution of Nitroglycerine.** *Made official as*

Liquor Trinitrini (*Off.*). **Solution of Trinitrin.**

Syn. LIQUOR NITROGLYCERINI, SOLUTION OF NITROGLYCERINE, LIQUOR GLONOINI, SOLUTION OF GLONOIN.

Dose.—"½ to 2 minims," gradually increased to 10 minims, if necessary, every 3 or 4 hours, in any aqueous vehicle.

Nitroglycerine	1 part by weight.
Rectified Spirit to produce	100 fluid parts.

Dissolve. Sp. Gr. 0·844. A five and a ten per cent. solution in absolute alcohol are also prepared commercially, but they are not safe for use in dispensing.

Oleum Nitroglycerini, 1 per cent.

Dose.—1 to 2 drops or more on sugar.

A solution in almond oil.

Pilula Nitroglycerini.

Is made with the theobroma-oil basis to contain $\frac{1}{100}$ to $\frac{1}{50}$ grain or more.

Tabellæ Nitroglycerini, Nitroglycerine Tablets (*Off.*).

Syns. TABELLÆ TRINITRINI, TRINITRIN TABLETS; TABELLÆ GLONOINI, GLONOIN TABLETS; TROCHISCI NITROGLYCERINI, L.H., NITROGLYCERINE LOZENGES.

Introduced by the writer in 1878, now recognised a official, $\frac{1}{100}$ grain in each. The tablets have the nitroglycerine in solution in chocolate, in a perfectly safe, stable, portable, and palatable form. The small bulk, precise dose, and quick action, if well munched and swallowed, render this mode preferable for administering nitroglycerine.

Dose.—One tablet every three or four hours to relieve or ward off attacks of angina pectoris, sea-sickness, neuralgia, Bright's disease, headache, &c. A tablet should be eaten and quickly swallowed when an attack of angina threatens; for this their use is preferable to the pills, which require a few minutes to dissolve, or to the solution, which must be measured, and the strength of which is liable to be uncertain and variable through evaporation. A dose of any preparation of nitroglycerine acts more promptly if taken on an empty stomach.

The tablets are also prepared containing $\frac{1}{75}$, $\frac{1}{50}$, and $\frac{1}{25}$ grain, and 1 milligramme respectively, for those accustomed to their use, as well as $\frac{1}{200}$, $\frac{1}{400}$, and $\frac{1}{600}$ grain in each, for administration to ladies, delicate persons and children, for whom this is a sufficient dose to ward off sea-sickness. The tablets appear to be non-poisonous even to children; a surgeon informed the writer that on one occasion two children, one three and the other six years of age, ate between them straight away two dozen, $\frac{1}{100}$ grain in each, without any injurious effects.

A patient took a hundred of these tablets daily with great benefit.—R.

They are attractive in appearance, and cannot be distinguished by the taste alone from ordinary chocolate creams.—L. i./79,850.

In a case of angina pectoris in which they were prescribed the relief afforded was most marked. . . . . They are certainly active; whilst they are agreeable to the taste.—B.M.J. i./79,899.

Fifty per cent. of cases of sea-sickness are benefited by the nitroglycerine tablets.—B.M.J. ii./80,512;691.

The tablets are the most convenient and ready method of using nitroglycerine.—B.M.J. ii./81,424.

The best method of administration is in the form of lozenges. They should be taken when the patient is threatened with an attack of asthma; or, if the attacks occur in the night, at bedtime, or whenever the patient wakes.—B.M.J. ii./81,543.

Tabellæ Nitroglycerini Compositæ, Westminster Hospital Pharm.

Contain Nitroglycerine $\frac{1}{100}$ grain, Nitrite of Amyl $\frac{1}{4}$ grain, Meuthol $\frac{1}{50}$ grain, Capsicum $\frac{1}{100}$ grain.

References.

Cases of angina pectoris treated with success in doses of one minim of 1 per cent. solution of nitroglycerine, upwards to, in one case, 10 minims every 3 or 4 hours, or as attacks required it.—L. i./79,80,115,151,225.

Bright's disease, acute and chronic, and in vascular tension of the aged, the 1 per cent. solution in dose of 1 to 3 minims was successful.—B.M.J. ii./80,803.

Myxœdema, case of, treated successfully with $\frac{1}{50}$ grain doses of nitroglycerine in conjunction with elaterium purgings.—L. i./82,440.

Puerperal convulsions, $\frac{1}{100}$ grain every hour arrested in 4 or 5 doses. Nitroglycerine also acts as an aperient, causing free evacuation of the bowels.—B.M.J. i./82,573.

The alcoholic solution 1 per cent. relieves toothache applied on cotton wool in the cavity of a carious tooth.—Pr. xxvii.285.

In epileptic vertigo, 1 to 2 minim doses of 1 per cent. solution quite relieved.—Pr. xxx.105.

In migraine, due to anæmia, a minim of 1 per cent. solution repeated every half-hour, if desirable, useful also in epilepsy, especially in cases of *petit mal* given in conjunction with bromides.—New York Med. Jour. Dec. 1882,662.

In a case of angina pectoris, the effect of 1 per cent. solution in 1 to 3 minim doses compared with that of nitrite of sodium.—Pr. xxx.179,321; xlvi./253.

In uræmic asthma, $\frac{1}{100}$ grain doses thrice daily, was useful.—B.M.J. i./83,811.

In chronic albuminuria, $\frac{1}{100}$ grain every 3 or 4 hours, found useful.—M.T.G. i./84,538.

On account of its stimulating effect on the heart and blood vessels, is recommended as a substitute for alcohol where brandy is indicated; dose is small and tasteless, and its action is almost immediate. Useful in collapse from chloroform, or typhoid and other fevers, shocks from accidents, and nausea and faintness from surgical operations.—L. ii./85,257. Further therapeutic résearches. Strychnine, ergot, and belladonna recommended as antidotes.—L. i./89,1238,1297.

In nephritis, it increases the amount of urine, whilst lessening the amount of albumen.—Pr. xxxiv.67; L. ii./85,733; Th. Gaz.1888,May,355.

Asthmatic fits, found to give more relief than any other drug, even in cases of weak heart.—M.P.C. i./86,6. Solution 1 drop every 5 minutes.—Ed.M.J. 1890,552.

Its administration relieves morphine craving.—L. i./87,1278; i./90,1334.

Case of apparent death, woman resuscitated by ten drops of hypodermic solution.—P.J. 1886,509; M.P.C. 1887,36.

In epilepsy the frequency of attacks is lessened by its use.—Th. Gaz. 1888,257; Pr. xl.466.

Paroxysmal headaches much improved and made less frequent.—L. ii./87,1135; i./88,1195 (tablets used).

In dyspnœa is preferred to other nitrites.—Intern. Jour. Med.Sci.Oct.1887,393; Feb.1888,122.

In tinnitus aurium, doses of $\frac{1}{100}$ grain found useful.—Pr. xl.232.

Poisoning by eating two "bobbins" of dynamite which would be about 4 inches long by $\frac{3}{4}$ inch diameter.—L. ii./88,1102.

Most rapid alleviant in angina pectoris.—L. i./90,240; B.M.J. ii./91,982.

Nitroglycerine the most reliable agent in angina, more especially graver cardiac cases.—Pr. xlvi.253; M.C. May 1891,132.

Nitroglycerine has the advantage over amyl nitrite that it can be more readily used to keep up a steady diminution in blood pressure—chocolate tablets the best method—one to be broken up small and a piece taken every 10 or 15 minutes. Thus the action is never very great, but is constant.—Pr. xlvii.259.

The best treatment for angina;—one tablet taken before walking prevented attacks and enabled patient to walk comfortably; a remarkable improvement in health. —L. i.92,519.

In asthma 1 minim solution ($\frac{1}{100}$-grain) every half hour or so after onset of attack much commended.—Westminster Hosp. Rep., vol. vi. p. 47.

NUX VOMICA.

Nux Vomica (*Off.*).

Dose.—1 to 5 grains in powder.

The galenical preparations of the seeds of *Strychnos Nux-vomica*, are now required to be standardised.

Extractum Nucis Vomicæ (*Off.*).

Dose.—¼ to 1 grain (but often less).

The powdered seeds are percolated with a mixture of distilled water 1, rectified spirit 4 (this mixture exhausts Nux Vomica better than rectified spirit alone), and the percolate concentrated by distillation and evaporation to an extract, which must contain 15 per cent. of total alkaloids. By dissolving 133 grains of this extract in distilled water 4 ounces and rectified spirit *q.s.* to form a pint, it forms :—

Tinctura Nucis Vomicæ.

Dose.—10 to 20 minims (or often less). One ounce contains one grain of Nux Vomica alkaloids.

Tinctura Ignatiæ. *Dose.*—3 to 20 minims.

From St. Ignatius' Beans, the seeds of *Strychnos Ignatii* (allied to Nux Vomica), 1 part, and a mixture of rectified spirit 3 and water 1, *q.s.* to produce 10 parts. A stronger preparation is known as **Gouttes Amères de Baumé** (Codex), 1 in 2. *Dose.*—1 to 8 minims.

Strychnina.—See p. 376. **Brucina.**—See p. 85.

OLEATA.

Oleated Preparations.

Acidum Oleicum, Oleic Acid (*Off.*).

A pale-sherry-coloured oily liquid (at ordinary temperatures) with a slight but not disagreeable odour, obtained by the saponification of olein, or by the action of superheated steam on fats, and afterwards separating by pressure the liquid oleic from the solid fatty acids. It is faintly acid to test paper, insoluble in water, but is dissolved readily by rectified spirit, ether, chloroform, benzol, and fixed oils; it dissolves most metallic oxides, thus forming indefinite oleic solutions of oleates in an excess of Oleic Acid; such combinations of bismuth, copper, lead, mercury, and zinc are used medicinally; they are soluble in oils, fats, and petroleum ointments. Those of mercury and zinc are most in request. Oleic Acid also dissolves alkaloids, but not their salts, *e.g.* Oleate of Aconitine (see Aconitina, p. 39), Oleate of Atropine (see Atropina, p. 72), Oleate of Morphine (see Morphina, p. 276), and Oleate of Veratrine (see Veratrina, p. 404), are used medicinally. One part of Quinine (alkaloid) is dissolved by 3 of Oleic Acid forming **Oleatum Quininæ**, which is applied externally and is readily absorbed, and 8 grains (=2 grains of Quinine) added to one ounce of cod liver oil forms Oleum Morrhuæ cum Quininâ. Oleic Acid, although a derivative of oils, is much more readily absorbed by the skin than oils. It also aids the absorption of drugs with which it is combined.

Résumé of the use of the oleates and their preparation. —B.M.J. ii./84,749.

Lipanin.

Under this name a mixture of olive oil with six per cent. of oleic acid has been used in Germany as a substitute for cod liver oil. It is claimed that it emulsifies and assimilates more readily than the latter.—Pr. xliii.357; P.J. 1888,163.

Oleanodyne.

A special preparation combining the alkaloids aconitine, atropine, morphine, and veratrine, with oleic acid. It is rapidly absorbed, and forms a strong anodyne liniment, which can be diluted with chloroform, rectified spirit, or oils. It is not so compatible with compound camphor or soap liniment.

Cupri Oleas.

Is best prepared by the double decomposition of a hot solution of sulphate of copper, 3 in 8 of water, added to a hot solution of Castile soap 8 in 32, washing and drying the pasty precipitate. When cold it is in solid dark-green masses. It is in reality an oleo-palmitate of copper; may be employed as a plaster for warts and corns.

Unguentum Cupri Oleatis.

Oleate of Copper 1, Petroleum Cerate (p. 309) 4. Melt and stir till cold. A softer ointment may be made by using vaseline as the basis, and for some purposes it may be employed half the above strength.

Is specially useful in ringworm—lightly rubbed in night and morning,—for indolent ulcers, warts and corns, and is recommended for removing freckles.—M.R. 1882,449; P.J. 1882,303; L. i./83,250; Edin.Med. Jour. 1884,566.

Oleatum Cocainæ.—See p. 145.

Oleatum Hydrargyri (*Off.*). 10 per cent

Yellow Oxide of Mercury 1, Oleic Acid 9. Into the acid, kept agitated in a mortar, sprinkle the oxide gradually, and stir frequently during 24 hours, until the latter is all dissolved and a light brown unctuous jelly is formed.

Oleatum Hydrargyri (10 per cent.) **cum Morphina.**

Pure morphine, one grain, is dissolved in a drachm of the above. Linimentum Hydrargyri Oleatis cum Morphina, R.O.H.; T.H. is prepared from the 5 per cent. oleate.

Unguentum Hydrargyri Oleati, B.P.C.

Oleate of Mercury 1, Simple Ointment 1. Mix without heat.

Oleatum Hydrargyri, 5 per cent. (liquid), and 20 per cent. (unctuous).

Are prepared respectively with one-half and twice as much oxide as the 10 per cent., and when ordered with morphine 1 grain is added to each drachm of the oleate when dispensed. These preparations do not keep well with the morphine in combination. The 10 per cent. is always dispensed unless one of the others is specially ordered. It is also the official Oleatum Hydrargyri, U.S. These oleates should be applied with a brush, or lightly spread over the part with the finger, and covered with a linen rag or silk handkerchief; otherwise, if used with much friction, they may cause some cutaneous irritation. The addition of morphine is indicated where there is pain in the part, or the simple oleate itself causes much pain. The case and the age of the patient will indicate which strength of oleate should be used. As a rule, according to the size of the part affected, 10 to 30 drops, or a piece from the size of a bean to a nut, should be rubbed in twice a day for 4 or 5 days, then at night only, afterwards every other day till cured. The application does not salivate unless used in excessive quantity. In persistent inflammation, especially of glands, and joints (such as synovitis), and in non-ulcerated syphiloderma, the Oleates of Mercury are much more active, definite, and cleanly, than the mercurial ointment, which is dirty and uncertain.—L. i./72,709.

In syphilitic affections it is most serviceable, being a certain and less disagreeable cutaneous application than ointments, and really hastens the subsidence of papules and other disfigurements of exposed parts of the skin; is also a very effective parasiticide in pediculi.—Pr. x.204.

Cases of ringworm, one on scalp, cured by 10 per cent. Oleate. It is a certain, painless remedy, produces no stain, and it destroys the fungus, as it readily permeates the sebaceous glands, hair follicles, and even the hairs themselves. Its penetrating power may be increased by adding one-eighth of ether.— L. ii./73,227.

Ringworm of scalp—the most inveterate cases which had existed for years cured by Oleate of Mercury, 5 per cent. for under 8 years, 10 per cent. for over that age; one-seventh of acetic ether added to it, increases its penetrating power, causes little pain.—L. i./80,126.

An **Oleo-Palmitate of Mercury** may be made by the double decomposition of perchloride of mercury and Castile soap. It is an opaque, yellowish, viscid unctuous body, about twice the strength in mercury of the 20 per cent. preparation made by direct combination. It is recommended to be diluted with from 1 to 3 or more parts of an unctuous petroleum such as vaseline for use. It is not a satisfactory preparation.

Emplastrum Hydrargyri Oleatis.

Lead Plaster 6, melt and add Oleo-Palmitate of Mercury 2. Is a useful substitute for mercurial plaster, and for strapping up joints requiring the constant application of Oleate of Mercury.

Oleatum Plumbi.

Lead Plaster, B.P., is a crude Oleate of Lead, made by the combination of olive oil (oleate and palmitate of glyceryl) and oxide of lead heated together in the presence of water. Thus made, the oleate possesses more adhesiveness than when prepared by the oleic acid solution of the oxide.

The following ointment was largely prescribed by the Viennese skin physician, Hebra, as a remedy for eczema, excessive perspiration of the feet, &c. It is in reality an oleate of lead ointment.

Unguentum Diachyli (original formula).

Olive Oil 15 ounces, Boiling Water 32 ounces ; heat, and add gradually, Litharge in Powder 3¾ ounces. Continue the heat, adding more water if necessary, and stir constantly till combined, and until cold. Then add Oil of Lavender 2 drachms. In cold weather an extra ounce of oil should be allowed for every pound of ointment. It should be rubbed in 1 to 3 times a day, or spread on linen and applied as a plaster. Modified as

Unguentum Plumbi Oleatis, U.C.H, Unguentum Diachyli, P.G. III.

Lead Plaster, Olive Oil, equal parts (by weight), melted together.

Unguentum Diachyli, B.S.H.

Lead Plaster and Vaseline equal parts.

Melt together and stir till cold. Made thus, the ointment keeps well, and does not acquire a disagreeable odour. Kaposi (son-in-law of Hebra) has adopted this, when perfumed with oil of bergamot, as *Unguentum Vaselini Plumbicum.*—Pr. xxii.124 ; Br. i./79,lix.

Oleatum Zinci (*Off.*).

Oxide of Zinc 1, Oleic Acid 9. Mix and heat together till combined.

Chartazinc.

Tissue paper impregnated with oleate of zinc ; this hastens the healing process and is a healthy stimulant to chronic ulcers, especially those of long standing, and large sores left after burns.—B.M.J. ii./78,691.

Unguentum Zinci Oleati (*Off.*).

Oleate of Zinc and Soft Paraffin equal parts. Melt together and stir till cold. For some cases further dilution with vaseline is advisable. This ointment, having the zinc in solution, has the advantage over zinc ointment B.P., in most cases in which the use of this is indicated, in not coating the sore, to which it is applied, with a crust of débris, which checks healing and irritates the part on removal.

Chronic eczema, cases of, cured by above ointment.—B.M.J. ii./78,622 ; B.M.J. i./79,652.

Further, found useful in eczema ; one drop of otto of rose covers its faint smell.—B.M.J. i./79,586.

When required to be spread on lint or rag, the following harder ointment is preferred ; it does not liquefy or ooze through the dressing and grease the patient's clothes; as it sticks more firmly to the dressing than to the skin, on removal, the wound or sore is left free from any adhering ointment, &c., but it is not adapted for smearing on a sore.

Unguentum Zinci Oleati Durum.

Oleate of Zinc and Petroleum Cerate (p. 309) equal parts. Melt together and stir till cold.

Unguentum Oleatorum, G.H.

Oleate of Zinc Ointment 2, Diachylon Ointment 2, Oleate of Mercury (10 per cent.) 1, Soft Paraffin 1.

The **Metallic Oleates** may be made by the double decomposition of a soluble metallic salt and Castille soap as oleate of copper, p. 294). Thus made, the Oleates contain no free oleic acid, but they are more contaminated by palmitates than if prepared by direct combination of the oxide with free oleic acid. A zinc preparation of this kind is prepared as follows:—

Pulvis Zinci Oleatis.

Castille Soap 1 lb., Boiling Water 6 pints; apply heat till dissolved. Sulphate of Zinc 7 ounces, Boiling Water 16 ounces. Dissolve and add to former solution; stir well, separate the water from the Oleate floating on the top, and wash the latter with hot water till free from sulphate, then cool, dry, and reduce to fine powder. It resembles powdered French chalk in appearance, and is useful for dusting on eczematous surfaces and parts troubled with excessive perspiration. It may be perfumed by the addition of $\frac{1}{300}$ of thymol, and diluted with kaolin or starch. It is *the* remedy for hyperidrosis and osmidrosis.—L. i./82,974; M.R. 1882,449.

OLEUM GYNOCARDIÆ.

Chaulmoogra Oil.

Dose.—2 to 15 grains, filled into empty capsules or in cod-liver oil or milk.

The oil expressed from the seeds of *Gynocardia odorata*, imported from India. It has a pale brownish colour and a disagreeable taste and smell. It is always solid and unctuous in this climate, as it contains a quantity of palmitic acid, with three other fatty acids; of these **Gynocardic Acid** is supposed to be the active ingredient of the oil. *Dose:*—½ to 3 grains. The oil is applied externally, and given internally *after meals* for leprosy, phthisis, scrofula, marasmus, psoriasis, and lupus. For chronic rheumatism and rheumatic gout it forms a useful application with gentle friction. For phthisis 2 to 4 ounces should be rubbed into the chest weekly.—B.M.J. i./81,475,559; i./79,431,968; B.M.J. ii./80,844; Pr. xxi.321, xxii.241; L.ii./87,604.

In old standing eczema, with thickening of the skin, applied pure or as an ointment was useful.—Pr. xxvi.55.

Gynocardic Acid has also been used internally for leprosy with good results.—B.M.J.E. i./92,28.

Unguentum Gynocardiæ, Chaulmoogra Ointment.

Chaulmoogra Oil 1, Petroleum Cerate 3. Melt and stir till cold.

OLEUM MORRHUÆ.

Cod Liver Oil (*Off.*).

Capsules contain ½ or 1 drachm. *Dose.*—1, 2, or more.

Emulsio Olei Morrhuæ, B.P.C.

Dose.—2 to 8 drachms.

Cod Liver Oil...	8 ounces.
The Yolks of Two Eggs.	
Tragacanth, in powder ...	16 grains.
Elixir of Saccharin	1 drachm.
Simple Tincture of Benzoin ...	1 drachm.
Spirit of Chloroform	4 drachms.
Essential Oil of Bitter Almonds	8 minims.
Distilled Water ...	*q.s.* to 16 ounces.

Measure five ounces of water, place the tragacanth in a dry mortar, and triturate with a little of the cod-liver oil; then add the yolks of eggs, and stir briskly, adding water as the mixture thickens. When of a suitable consistence, add the remainder of the oil and water alternately, with constant stirring, avoiding frothing. Transfer to a pint bottle, add the other ingredients, previously mixed, shake well, and add water, if necessary, to produce 16 ounces.

Hypophosphites of Sodium and Calcium, of each 1 grain, may be contained in a drachm of the above if desired.

Lipanin.—See p. 294.

Morrhuol. Prepared from Cod Liver Oil by treatment with 90° alcohol, decanting and distilling off the alcohol. Said to be an acrid bitter but aromatic liquid containing phosphorus, iodine, and bromine in peculiar combination.

Dose.—In capsules containing 0·20 grammes, 1 or 2, each equal to 5 grammes of the oil.

OLEUM RICINI.

Castor Oil (*Off.*).

Dose.—1 to 8 drachms.

Mistura Olei Ricini (*Off.*).

Castor Oil Mixture. *Dose.*—½ to 2 ounces.

Castor Oil 180, Oil of Lemon 5, Oil of Cloves 1, Syrup 45, Solution of Potash 30, Orange Flower Water *q.s.* to 480.

With the oils contained in a mortar mix one-third of the potash solution, next the syrup, then an additional third of the solution, and gradually one-half of the water; then the remainder of the potash solution, and lastly, gradually, with brisk trituration, the water to produce 480. If the castor oil be very fresh, the addition of Oleic Acid about 5, after first supply of potash, is required to form a good emulsion.—P.J. 1891,896.

An agreeable dose, the oil being made more active by emulsification.

A more satisfactory preparation may be made by emulsifying Castor Oil, fresh Mucilage of Acacia, and Peppermint or other aromatic water, ½ ounce of each, with 5 minims of Elixir of Saccharin to sweeten.

OLEUM SANTALI.

Oil of Sandalwood (*Off.*).—*Syn.* OLEUM SANTALI FLAVI, YELLOW SANTAL OIL.

Dose.—10 to 30 minims.

The oil distilled from the wood of *Santalum album*. A yellowish liquid, with a somewhat roseate odour, and an aromatic bitterish, slightly acrid taste. Has been employed in the treatment of gonorrhœa and gleet.

It quickly checks the discharge in dose of 15 minims 3 times a day.—Pr. xxvii.440.

In 100 cases of gonorrhœa employed with satisfactory results.—Glasgow Med. Jour. April, 1865.

In 19 cases of gleet, 13 with marked benefit; in 6 it failed; but in 4 of the latter the stomach could not bear the full dose.—B.M.J. ii./67,7.

Taken internally in conjunction with the use of iodoform and eucalyptus bougies, with success.—L. ii./82,215.

Serviceable internally in 10 minim capsules, for chronic cystitis, with benzoic acid and boric acid as adjuvants.—M.C. March 1892,392.

Capsules of Santal Oil are prepared, containing 10 minims in each, or it may be administered as

Mistura Olei Santali. *Dose.*—One ounce.

Oil of Sandalwood 2 drachms, Tragacanth, in powder, 30 grains. Mix, and add quickly Water to 8 ounces. Shake well. Aromatic water with syrup may be used.

Oxygen.—See p. 229.

PANCREAS.

In the pancreatic juice of man four distinct digestive ferments are believed to be contained, viz.:—

a. Trypsin—changes proteids into peptones in alkaline and neutral media.

b. Curdling Ferment—curdles the casein of milk.

c. Pancreatic Diastase—changes starch into sugar and dextrin.

d. Emulsive Ferment—emulsifies and partially saponifies fats.—B.M.J. ii./79,683; B.M.J. i./80,540.

For invalids, aged persons, and those suffering from weak digestion, or those prostrated by fever or exhaustion, preparations of the pancreas of the pig (an omnivorous animal) may be employed, by means of which food may be partially or wholly digested previous to administration; their nutrition is thus maintained, and the stomach has time to regain its wonted powers of digestion.

Extractum Pancreatis (Fairchild).

An American preparation, is sold in three forms:—(1) The powder put up in ½-ounce and 1-ounce bottles; requires the addition of bicarbonate of sodium; is used for peptonising beef-tea, milk, and gruels. (2) Tablets of Extractum Pancreatis weighing 3 grains. *Dose.*—One or two, an hour or so after meals. (3) Peptonising powders in glass tubes, each containing 5 grains of Extractum Pancreatis and 15 grains of bicarbonate of sodium; are used for peptonising milk, gruel, &c.

Pancreatine. *Dose.*—2 to 4 grains.

Sold in bottles with a dose measure.

A desiccated preparation of the Pancreas, mixed with powdered malt. It is very hygroscopic; if carefully prepared contains the active principles of the Pancreas.—Proc. Roy. Soc. xvi.209; B.M.J. ii./80,841.

Liquor Pancreaticus (Benger's).

Is made by treating 1 part of the pancreatic tissue of the pig with a mixture of 1 part of rectified spirit and 3 parts of water, and filtering the liquor.—Proc. Roy. Soc. xxxii.145.

This solution possesses the amylolytic or diastasic properties of converting starch into dextrin and sugar (maltose and dextrose), and the proteolytic or tryptic action of converting albumen and fibrin into peptones, and of first curdling and then peptonising milk.

Dose.—1 to 2 drachms in a little water with meals; or mixed with food, such as farinaceous gruels, bread-and-milk, or arrowroot, when cool enough to sip; or, when given to aid intestinal digestion, 1 or 2 drachms in water with a pinch of bicarbonate of sodium 2 or 3 hours after a meal. As an addition to nutritive enemata, a dessertspoonful should be added to beef tea or milk gruel just before its administration. Liquor Pancreaticus will not keep diluted, and a temperature much over 140° F. destroys the ferment, which does not act in an acid medium.—B.M.J. ii./79,683,724; B.M.J. i./80,539,575, 614,647,683; L. i./80,513,549,589,629,705,753,827.

Peptonised Milk.

Mix two-thirds of a pint of fresh milk with one-third of a pint of water, and warm in a saucepan to a temperature of about 140° F. (or the diluted milk may be divided into two equal portions, one of which may be heated to the boiling point and then added to the cold portion, the mixture will then be of the required temperature). Add two teaspoonfuls of Liquor Pancreaticus, and half a level teaspoonful of bicarbonate of sodium. Pour the mixture into a covered jug and place in a warm situation for ten to twenty minutes, then boil the product. It can then be kept and used like ordinary milk.

Pilula Pancreatica (Benger).

Dose.—One after meals. Suggested in pancreatic diabetes, where the glycolytic or sugar-destroying ferment in the blood, normally furnished by the pancreas and other glands, fails. The pills are keratined to carry them through the stomach intact.—L. i./92, 635,904,961.

Peptonised Beef Jelly.

An extract of beef containing much of the fibrin converted into peptone or partially digested by pancreatic trypsin. May be taken by teaspoonfuls as a restorative, or added to soups, &c.—Trans. Med. Congress, 1881, i. 517.

A Saline and a **Neutral Essence of Pancreatine** are prepared by Savory & Moore. *Dose* of each, 1 to 2 drachms diluted. The Neutral Essence has properties like Liquor Pancreaticus, and the Saline Essence is prepared with common salt.—B.M.J. i./80,438,473,512.

Pancreatic Emulsion.

Prepared by mixing and pounding the pancreas of the pig with lard and water, straining, and exhausting the strained substance with ether. The ether forms a solution of pancreatised fat. From this the ether is distilled, and the fat mixed with a mixture of rectified spirit and water (1 to 3) and emulsified by agitation. Oil of cloves is added to flavour and preserve it.—Proc. Roy. Soc. xvi.209; L. ii./64,288; L. i./65,620; L. ii./65,534,562; L. ii./66,542.

Dose.—1 to 3 drachms, in a little milk or water, with a little spirit added, if liked, once or twice a day 1 or 2 hours after a meal. Given in consumption and other wasting diseases attended with loss of power to digest and assimilate food, especially where fats and cod-liver oil do not agree with the stomach.

Although the fat is first pancreatised and *then* emulsified, much of the value of the above preparation is due to its containing an animal fat, rich in stearine, in a suitable condition to be readily assimilated. The writer has succeeded in preparing an emulsion of lard, for hospital purposes, by the following formula:—

Emulsio Adipis, Fat Emulsion.

Prepared Lard	15 ounces.
Boiling Distilled Water ...	30 ounces.
Tragacanth, in powder ...	300 grains.
Essential Oil of Almonds ...	15 minims.

Melt the lard, add the tragacanth, and mix. Then pour in the boiling water, and stir with a whisk till nearly cold, add the oil of almonds, mix well, and put into well-corked wide-mouth bottles.

Dose.—1 to 3 drachms, mixed with milk and a little rum added, if liked, once or twice a day after a meal, or early in the morning before breakfast.

Pancreatised Farinaceous Food (Benger's).—Wheat flour, partially dextrinised by dry cooking, is impregnated with an extract of pancreas; is suitable for infants and invalids; when mixed with milk or milk and water, artificial digestion of the food and milk takes place, which can be checked at any point by boiling.—Trans. Med. Congress, 1881, i.517; L. i./82,489.

Pulvis Pancreaticus Alkalinus (Benger).

Twenty grains in each. Consists of pancreatic enzymes mixed with bicarbonate of sodium, one being sufficient to peptonise a pint of milk in from 10 to 30 minutes, according to the amount of predigestion required.—B.M.J. ii./85,191.

Milk, Artificial Human (Frankland).

Add to ⅔ pint new milk, the cream removed from another ⅓ pint after standing 12 hours. Curdle this ⅓ pint of skimmed milk with a square inch of rennet by contact for five to fifteen minutes. Break up the curd frequently; and separate the whey, which heat to boiling point, removing the casein which is thus separated. Dissolve 110 grains Sugar of Milk in the hot whey, and mix it with the ⅔ pint milk containing the cream of the other ⅓ pint. The artificial milk should be used within 12 hours of its preparation, and the same piece of rennet will serve for weeks.

Preparation of milk for infant feeding, by the addition of oatmeal, butter, and milk sugar to diluted cow's milk.—P.J. 1889,3.

Simpler formula:—New Milk 30, Cream 1¾, Milk Sugar 1⅛, Water 18; with instructions for sterilizing.—P.J. 1892,652.

PAPAIN.

Syn. PAPAYOTIN. (But this term is sometimes applied to the crude powder produced by drying the juice, otherwise known in commerce as dried Papaw Milk. Dose of this, 3 to 10 grains.)

Dose of Papain.—1 to 8 grains suspended in water.

A white or whitish, amorphous, slightly granular powder, prepared from the juice of the papaw, *Carica Papaya.* 75 per cent. should be dissolved by absolute alcohol. It acts in acid, alkaline, or neutral media, has the property of digesting fibrin like pepsin, and its action is not checked by carbolic acid.—Trans. Med. Congress 1881, i.513; P.J. 1880,250,350; B.M.J. ii./91,1318. Is a vermifuge; report on its digestive power.—P.J. 1885,45. Specially destructive to ascarides.

Elixir Papain. *Dose.*—1 drachm with meals.

Glycerinum Papain. *Dose.*—1 drachm with meals.

Glycerine slightly acidulated with hydrochloric acid, is a solvent for papain, and forms a useful mode of administration.

Trochisci Papain ($\frac{1}{2}$ gr.)—With meals for dyspepsia.

Trochisci Papain ($\frac{1}{5}$ gr.) **et Cocainæ** ($\frac{1}{10}$ gr.)

These, if slowly sucked, are useful for patches on tongue, &c.

To remove warts, in chronic eczema and hypertrophied condition of the skin of the palms of the hands, a **Pigment of Papain** 12 grains, Borax 5 grains, water 2 drachms, applied twice a day, was found curative. Recommended also as a solvent of the false membrane in diphtheria. — B.M.J. i./82, 738,845. And for the removal of caseous matter from the external ear.—M.C. May 1890,165.

Will peptonise 200 times its own weight of pressed fresh blood fibrin.—M.R. 1882,454.

Comparison between papain and pepsin as digestive ferments; acts best in alkaline solutions.—L. ii./87,164.

Ulcers and fissures of tongue painted with a solution of Papain 1 to 2 in 10 each of glycerine and water recommended.—Monatsh. für prakt Derm. Vol.vi.No.7; L. ii./87,604; Th. Gaz. 1887, 717; Pr. xliv.55.

Method of papainizing milk, 7 grains digest a pint in an hour and a half.—B.M.J. ii./85,125.

Useful in chronic cases of indigestion and dyspepsia, with acid eructations and painful gastric fermentation. —Pr. xli.201.

PAPAVERINA.

Papaverine.

Dose.—$\frac{1}{12}$ to $\frac{1}{3}$ of a grain.

An alkaloid from opium, does not readily form salts with acids, is in colourless acicular crystals, insoluble in water, sparingly soluble in spirit, soluble in ether.

Said to be a strong narcotic, without producing previous excitement or being followed by headache or giddiness. It contracts the pupil, when it causes sleep and reduces the frequency of the pulse from 20 to 30 beats.—R.

PARAFFINUM DURUM.

Hard Paraffin (*Off.*).—*Syn.* PARAFFIN; PARAFFIN WAX; SOLID PARAFFIN.

A mixture of several of the harder members of the paraffin series of hydrocarbons; usually obtained by distillation from shale, separation of the liquid oils by refrigeration, and purification of the solid product. Is colourless, semi-transparent, crystalline, inodorous, and tasteless, slightly greasy to the touch. Sp. Gr. 0·82 to 0·94. Insoluble in water, slightly soluble in absolute alcohol, freely soluble in ether. It melts at 110° to 145° and burns, but not without a wick, with a bright flame, leaving no residue. The range of melting point of this and the soft paraffin is too wide; melted together, they do not produce a uniform basis for ointments.

Ceresin. A hard white paraffin prepared from ozokerit, or earth wax; has melting point about 155° F. When artificially coloured to resemble yellow wax it is sold as **Yellow Ceresin.**

PARAFFINUM MOLLE.

Soft Paraffin (*Off*).—*Syn.* PETROLATUM; UNGUENTUM PARAFFINUM.

A semi-solid mixture containing some of the softer or more fluid members of the paraffin series of hydrocarbons. Melts at 95° to 105° F.; is usually obtained by purifying the less volatile portions of petroleum. It is known in commerce by various fanciful names, of which

Vaseline, Vaselinum, or (as termed in earlier editions of this work) **Gelatum Petroleum, Petroleum Jelly,** is most in demand.

This Petroleum product, of semi-solid, unctuous consistence, translucent, and pale opal yellow in colour, is the oleaginous residue obtained by distilling off the lighter burning oils from certain varieties of crude petroleum; it is purified from volatile products by gently simmering and filtering through animal charcoal; if repeatedly filtered through this, it becomes opal-white in appearance, and is then known as

Vaselinum Album, White Vaseline.

This is most suitable for toilet purposes.

Since first imported, about twenty years ago, there have been several imitations of Vaseline produced; but it is still purer, freer from odour, is less crystalline and granular, and has less tendency to separate than any of its competitors. Among the latter, which the official description includes, are—

Adepsine, Yellow and White; melt completely about 120° F.; White Adepsine is of the consistence of, and resembles, lard in appearance; it is one of the best petroleum substitutes for it. **Adepsine Oil** resembles Vaseline Oil, but is colourless and more liquid.

Chrisma, Cosmoline (Unguentum Petrolei), **Fossiline, Ozokerine, Geoline,** and **Salvo Petrolia** are also in the market as imitations of Vaseline.

Vaseline is bland, inodorous, and tasteless, unirritating to the skin, mucous membrane, and wounds or sores in any condition. It has the advantage over lard and other fats, in that it is unchangeable—cannot oxidise or become rancid, and thus set up irritation. It cannot be saponified; caustic alkalies have no action on it. Yet Vaseline and ointments made of it can easily be washed off with soap and water.

Vaseline is insoluble in water, only slightly and partially soluble in alcohol, freely soluble in ether and chloroform. When melted, it combines with oils, melted fats, and paraffin wax, oleates, and oleic acid. It readily dissolves thymol, menthol, and salicylic acid; less so chrysophanic acid, and carbolic acid about 1 in 20; the alkaloids dissolve in it in about the following proportions:—atropine, 1 in 120; cocaine, 1 in 20; morphine, 1 in 200; quinine, 1 in 80; and veratrine, 1 in 80. The oleic acid solutions of these alkaloids dissolve in it in all proportions.

Lard, plain or benzoated, spermaceti ointment, and simple ointment are the four bases suggested for extemporaneous medication by the Pharmacopœia. Lard, the most used and cheapest, has for some purposes, in the summer, too low a melting point; spermaceti ointment is variable and costly; and simple ointment crumbles in winter. Being from animal and vegetable sources, these are all prone to become rancid.

Since Vaseline was introduced to the profession this and the other inodorous forms of petroleum containing more or less paraffin wax have, in great measure, replaced the before-mentioned preparations as bases for external medication. Still, both classes of bases have their special uses. Where absorption of the medicament by the skin or tissues is required, lard or some animal fat is best adapted for the purpose, *e.g.*, for mercurial inunction, applying iodine, iodide of potassium, or other iodides, to reduce glandular enlargements, and for using aconitine, veratrine, or morphine in neuralgia, or relieving pain generally. Lard is often a solvent for these medicaments, or by the intervention of oleic acid, chloroform, or spirit, they may be dissolved in lard, and thus be readily absorbed. Vaseline and its allies are often solvents also; but these petroleum bases are not readily, if at all, absorbed by the skin or tissues. After slightly smearing the hands or other parts of the body with Vaseline, they remain moist for eight hours or more. In this way, Vaseline is an excellent lubricant for the skin,—protects it from exposure, and prevents the drying, hardening, scaling, or cracking of parts likely to do so. By thus protecting and keeping the parts moist, it is very useful in many skin diseases, and for applying to the eruption of scarlet fever or measles, burns, scalds, and chapped and sunburnt skin; it prevents the formation of hard crusts, and is a good basis for many medicaments of which it is a solvent. As it melts about 95° F., it readily liquefies on whatever part of the body it is applied, and brings the affected part directly and completely in contact with the medicament held in solution; also, as it can be painted on in a thin streak, it is admirably adapted as a basis for applying medicaments, either in solution or suspension, to the eyelids, as well as to the conjunctiva and nasal passages. It is likewise well adapted for drugs which turn lard and other fats quickly rancid, such as preparations of lead, mercury, zinc, and iodide of sulphur. Still, where Vaseline, either by itself or as the basis of a medicament which does not dissolve in it, is required to be applied as an ointment spread on lint or rag, it melts so readily that it becomes absorbed by the dressing, spreads to the surrounding parts, and leaves the medicament dry on the sore. To obviate this, a firmer basis, and one requiring a higher temperature for complete liquefaction is necessary.

In the case of lard, which melts at 110° to 115° F., we have a mixture of the proximate principles stearine and oleine; stearine when pure is solid and brittle, and oleine when pure is liquid; in lard the stearine has crystallized out of solution in the oleine, and the two mix to form a plastic, solid fat, which does not completely liquefy when applied to the surface of the body.

Similarly we require a basis of mixed inodorous solid and liquid paraffins blended by the former having crystallized out of the latter and formed a similar compound to lard. In Vaseline this blending is done by nature, the crystallization is invisible to the naked eye, it is translucent and apparently homogeneous, but its melting point is too low. The writer finds the solid paraffins with higher melting points crystallize in more minute crystals and blend better with Vaseline than those which melt at a lower temperature. He finds the following makes useful hard bases for ointments:—

Ceratum Petrolei.

Vaseline 2 parts, Paraffin (135° to 140°) 1 part.

Melt and stir till cold. It should be stirred with a palette knife in a large enamelled evaporating dish, and be frequently stirred from the sides. Its tendency to form lumps is thus avoided. For complete liquefaction, this requires a temperature of about 125° F. It does not, therefore, completely liquefy on the surface of the body, and is suitable as a basis for ointments to be applied spread on lint or rag, to which it adheres more firmly than to the skin, so that on removal the wound or sore is left clean and free from any adhering ointment, &c. The British Pharmacopœia has adopted this basis, but, as the paraffins ordered are very indefinite, the product varies. It orders

Soft Paraffin 2 parts, Hard Paraffin 1 part.

Or in some the proportion of hard to soft paraffin is 1 to 3; in Unguentum Eucalypti equal parts are used. The authorities have also adopted the formulæ of the writer, with slight modifications in some cases, by employing it to make the following official ointments:—Unguentum Acidi Borici (p. 4), Unguentum Acidi Carbolici (p. 10), Unguentum Acidi Salicylici (p. 28), Unguentum Eucalypti (p. 189), and Unguentum Glycerini Plumbi Subacetatis (p. 210); it forms a new basis likewise for the following official ointments:—Unguentum Hydrargyri Oxidi Rubri, Unguentum Potassæ Sulphuratæ, Unguentum Sulphuris Iodidi, and Unguentum Veratrinæ. As this basis is scarcely at all absorbed by the skin, its use in the last ointment, the writer thinks, is a mistake; to derive benefit from this ointment it should be readily absorbed. Impregnated with any solid medicament, and placed into a wound or on a sore, Ceratum Petrolei slowly allows the former to come constantly in contact with the serous or other discharge, and thus checks any putrefaction. A little rubbed on the skin of the face or hands protects the parts more effectually than simple vaseline.

Oil Vaseline.—*Syn.* LIQUID VASELINE.

Under this name a semi-liquid mixture of paraffins of low melting-point is used as a vehicle for **Hypodermic Injections**; the medicaments may be either dissolved or suspended in it. Thus it, or Oleum Declinæ (see p. 311), which is more limpid, is recommended as a solvent for **Cocaine** (2 per cent.), **Helenin** (1 per cent.), **Iodine** (2 per cent.), **Iodoform** (1 per cent.), **Thymol** (10 per cent.), **Phenol** (1 per cent.), and **Phosphorus** (1 per cent.); also for Agaricin, Hyoscyamine, Physostigmine, Quinine, and Salol, with the intervention of Chloroform as a first solvent, but these latter do not prove satisfactory.

It is also used in syphilis for the suspension of insoluble mercurial salts for hypodermic injection, such as calomel, salicylate, succinimide, thymol-acetate, and yellow oxide of mercury, 10 per cent. mixtures being employed.

Oleum Deelinæ.

Is a purified petroleum oil, free from odour and taste. Its uses in forty cases of skin diseases.—Pr. xxxiv.401.

In chronic eczema.—L. ii./89,1113.

Paroleine, a still more fluid odourless petroleum, or **Adepsine Oil** (see p. 307) are used similarly to the above, but more especially as bases for **Laryngeal and Nasal Spray Solutions or Pigments,** containing **Menthol** (1 in 8 or more) or **Cocaine.**

Petrolatum, Petroleum Ointment, U.S.

One having a melting point of 104° F. and another 125° F., are official.

Unguentum Petrolei, Petroleum Ointment, L.H. Yellow Wax 30 grains, Vaseline 1 ounce; melt and stir until cold.

Cremor Zinci.

Oxide of Zinc 80 grains, Vaseline 1 ounce, Perfume *q.s.* Is much superior to violet powder for nursery use.

Paraldehyde. See Aldehyde, p. 50.

PELLETIERINA.

Pelletierine. *Dose.*—3 to 6 grains.

An alkaloid obtained from Pomegranate Root Bark, *Punica Granatum,* in minute shining white crystals.

Pelletierinæ Sulphas. *Dose.*—5 to 8 grains.

A brown viscid, syrupy liquid, freely soluble in water. 5 grains subcutaneously injected is recommended for paralysis, vertigo, Menière's disease, tetanus, and hydrophobia, but mostly used as a remedy for tapeworm; 5 to 8 grains taken fasting, followed by a full dose of compound tincture of jalap; in nine cases out of ten the head is passed; for 13 years, half the above dose, and for infants one-tenth.—L. i./86,127.

The **Sulphate of Pseudo-Pelletierine,** in small white acicular crystals, is not used medicinally.

Pelletierinæ Hydrobromas.

Dose.—5 to 8 grains. A brownish viscid liquid. Used in case of paralysis of muscles of the eye with good results.—P.J. 1886,1006.

Pelletierinæ Tannas, Pelletierine Tannate.

Dose.—8 grains.

A greyish white amorphous powder insoluble in water. In tapeworm is an efficient remedy. As a tæniafuge, 8 grains followed in 2 hours by an ounce of castor oil proved an effectual dose, causing neither colic nor headache.—Pr.' xxiv.134; Pr. xxxiii.368.

Galeozowski reports that the internal use is apt to cause diplopia.—B.M.J. ii./85,1037.

PEPSIN.

Pepsin (*Off.*).

The gastric juice of man is believed to contain two distinct digestive ferments:—

a. Pepsin. This changes proteids (fibrin, albumen, &c.) into peptones in an acid medium. To this the medicinal pepsins principally owe their activity.

b. Curdling ferment, which curdles the casein of milk; this is very active in the stomach of the calf, even when dried: it is contained in the preparations of rennet preserved with common salt, known as **Essence of Rennet**.—B.M.J.ii./79, 683; B.M.J. i./80,540.

The medicinal preparations of pepsin rarely possess the latter property in an active condition, and their proteolytic or peptonising power is only exerted in an acid mixture.

Pepsin of the pharmacopœia is a light brown yellowish digestive powder, prepared by drying under 100° F. the fresh mucous lining of the stomach of the pig, sheep, or calf. It has a faint, not disagreeable, odour, is little soluble in water or spirit; rubbed with water, it makes a glairy mixture.

Test.—2 grains, with an ounce of distilled water to which 5 minims of hydrochloric acid have been added, form a mixture in which 100 grains of hard-boiled white of egg, passed through a 36 brass sieve, will dissolve on their being mixed, digested, and well stirred together for about 30 minutes at a temperature of 130° F. That prepared from the stomach of the pig is preferred, and known as Pepsina Porci (Beale's).

Dose.—2 to 5 grains, either with or immediately before or after meals, in a pill with glycerine, or wrapped in wet wafer paper, or sprinked between slices of bread and butter. It is not unpalatable sprinkled on meat like pepper.

Pepsina Amylacea, Pepsine Acide Amylacée ou Poudre nutritive of the French.

Dose.—5 to 15 grains. Is prepared with the addition of starch and slightly acidulated with hydrochloric acid.

Glycerinum Pepsinæ Acidum.

Dose.—1 to 2 drachms in water.

Glycerine is a powerful solvent and preservative of the active principles of the gastric juice. The above preparation is a very active solution slightly acidulated with hydrochloric acid.—Pr. xxiv.192.

In diphtheria, used as a solvent for membrane.—L. ii./81,700.

Liquor Pepticus (Benger's).

Dose.—1 to 2 drachms in a wineglassful of water with meals.—B.M.J. ii./80,683.

An active solution of the gastric ferments in weak alcohol.

Pepsin-Essenz (Liebreich's).

Dose.—1 to 2 drachms in water after meals.

This preparation contains principally the curdling ferment in diluted glycerine solution; it is weak in proteolytic power. —Pr. xxiv.192.

Peptone.

A whitish or pale-brown powder, prepared from meat (the proteids and albuminoids), peptonised either by acidulation and heat under pressure, or by artificial digestion with pepsin or trypsin, and freed from saline matter. It is soluble in water, and is used to add to jelly for germ-cultivation, and as a test for bile products in urine.

Resumé of experiments on peptones. Evidence in favour of their use as food. — B.M.J. ii./89,136; P.J. 1889,63.

Peptonised Beef.

A chocolate-coloured paste, having a bitter taste and the odour of extract of beef; prepared by artificially digesting beef by means of acidified fresh gastric juice and concentrating the solution. It is sometimes added to beef tea, but is too unpleasantly bitter to be readily taken by patients. It forms a useful nutritive enema.

Peptonised Beef Suppositories.

Contain about 30 grains of the last preparation in each. As much as 2 ounces of proteids can be administered daily by this means.—B.M.J. i./81,271; B.M.J. i./82,421,459.

Peptonised Bismuth.—See p. 83.

Peptonised Iron, Solution of.—See p. 200.

Peptonoids of Beef (Gerrard).

Lean Beef, finely minced, 8 ounces, Pepsin 60 grains. Mix and add Diluted Hydrochloric Acid 2 drachms, Water 1 pint. Digest for 3 hours at 130° F.; neutralize with Bicarbonate of Sodium, and strain.

Pepsin Tablets. *Dose.*—1 or 2 with meals.

These have 3 grains of pepsin in each in combination with chocolate, they are portable and palatable. Also

Pepsin and Bismuth Tablets. *Dose*—1 or 2.

Have 3 grs. subnitrate of bismuth added to the above.

Vinum Pepsinæ (Morson's).

Dose.—1 to 2 drachms, with meals.

A solution of the gastric ferments in light Spanish wine.

Phenacetin.—See p. 133.

Phenazone.—See p. 135.

Phenocoll Hydrochlorate.—See p. 138.

Phenol.—See Acidum Carbolicum, p. 7.

PHOSPHORUS.

Phosphorus (*Off.*).

Dose.—$\frac{1}{200}$ to $\frac{1}{30}$ grain, carefully increased.

This transparent, colourless metalloid, brittle at low, soft and flexible at common, temperatures, melts at 110°, ignites in the air at a slightly greater heat, and forms dense white fumes of phosphoric anhydride. At low temperatures it emits white vapours of phosphorous anhydride. It is insoluble in water, soluble 1 in 320 of absolute alcohol, about 1 in 150 (=1 in 205 by measure) of absolute ether, 1 in 100 of chloroform, 1 in 100 of Dutch liquid (this takes up much more if warmed), about 1 in 100 respectively of almond, olive, castor, and theobroma oils, suet, and most fixed oils and fats; soluble in melted resins (? not unchanged in some); freely soluble in bisulphide of carbon; soluble also in, or rather combines chemically with, oils of turpentine and peppermint, forming non-luminous and comparatively non-poisonous liquids. These, as well as other essential oils, are incompatible with Phosphorus. French Oil of Turpentine is considered its best antidote—30 minims every half-hour.—B.M.J. ii./86,474.

Poisoning by phosphorus; solution of permanganate of potassium, ⅓ per cent., an efficient antidote, quickly converts it into phosphoric acid.—P.J. 1892,809.

Uncombined Phosphorus is a violent poison, and is a much more energetic medicine than an equivalent quantity of any of its chemical compounds. To obtain its full medicinal and certain action, and ensure its complete absorption, it should be administered in solution—either in oil or fat is most reliable. But its solutions, if liquid, are unpleasant to take and cause disagreeable eructations. Many are unstable, as on exposure to the air they rapidly oxidise and form almost inert compounds. It is a difficult pharmaceutical problem to present it in an active and palatable condition. The French perles or globules of phosphorated oil are stable and active, only the dose contained in them is overstated. Solutions of Phosphorus in oil of theobroma or suet make active pills, if these are coated with sandarach solution, and not kept too long. All the preparations of Phosphorus require skill and care, else much of the Phosphorus is spent or oxidised during manipulation. In making it into pills, this may be partially checked by dropping a minim or two of chloroform into the mortar, the vapour of which checks the luminosity of Phosphorus.

Phosphorus is a nervine tonic and stimulant—given for nervous prostration, paralysis agitans, locomotor ataxy and impotence. It is most useful in neuralgia—especially in aged persons, in leucocythæmia, and in some skin diseases. In psoriasis, chronic eczema, and lichen it acts somewhat like its chemical ally, arsenic.

Amorphous or **Red Phosphorus.**

Dose.—(?) 1 grain.

An allotropic variety of Phosphorus, obtained by prolonged heating at a temperature of 464° F. without access of air. It is a red powder, insoluble in the simple solvents that dissolve ordinary Phosphorus. It might be administered in a pill, first triturated with sugar of milk and massed with glycerine of tragacanth, but it is unsafe, and not used medicinally. If perfectly free from white Phosphorus, which constitutes its danger, it appears to be physiologically and therapeutically inert. Half-drachm doses were taken 3 times a day for 40 days without apparent effect.—P.J. 1875,41.

Preparations.

N.B.—All preparations of Phosphorus require to be kept from the light and in a cool place.

Alcoholic Solutions of **Phosphorus** have been employed medicinally; but, as it requires 320 parts of cold and 180 of boiling absolute alcohol to dissolve it, and even in this quantity solution is difficult, and as on addition to water the Phosphorus is all precipitated, such solutions are unsatisfactory, uncertain, and give deceptive results.—Pr. xi.19; P.J. 1873,452.

Æther Phosphoratus, Teinture Ethérée de Phosphore (Codex, 1839).

Phosphorus, in small pieces	4 parts.
Pure Ether, Sp. Gr. 0·720 (by weight) ...	200 parts.

Macerate with frequent shaking in a dark place for a month and decant. About one-third of the phosphorus only is dissolved, it contains 1 in 150 (or 205 by measure). *Dose.*—1 to 10 minims.

In neuralgia, 5-minim doses effected a cure, taken on the advent of an attack and repeated as required.—L. ii./72,690.

In neuralgia, 1-minim doses useful.—B.M.J.ii./78,975; B.M.J. i./79,176.

Elixir Phosphori. *Adopted by B.P.C., and as* **Glycerinum Phosphori, G.H.**

Add Compound Tincture of Phosphorus (see p. 319) 1 drachm, to Glycerine 4 drachms, and shake well.

Dose.—15 minims to 1 drachm in water. Contains $\frac{1}{80}$ grain in one drachm. As a fluid form of Phosphorus this is stable, palatable, and is well borne by the stomach.

Oleum Phosphoratum (*Off.*).

Dose.—1 to 10 (!) minims, on sugar or in perles.

Contains about 1 per cent. of Phosphorus in prepared almond oil; it is about as saturated as the corresponding preparation in the Paris Codex is, in which 1 in 50 is ordered, but only 1 per cent. is dissolved. It is phosphorescent in the dark. Diluted with twice its bulk of almond oil, so as to make it 1 in 300, it forms a liniment or eye-drops, which has been used in Paris for the cure of cataract without operation. 3 to 5 instillations are used per diem.

Perles of Phosphorated Oil.

Dose.—One after meals.

These are imported from France, containing $\frac{1}{100}$ grain, $\frac{1}{25}$ grain, and $\frac{1}{32}$ grain of Phosphorus respectively.

Phosphorated Cod Liver Oil.

Dose.—1 to 4 drachms.

Is prepared by adding 160 minims of Phosphorated Oil, B.P. to a pint of cod liver oil. It contains $\frac{1}{100}$ grain in one drachm. It is a very unstable and unpalatable preparation.—P.J. 1877,694,712,748.

Pilula Phosphori (*Off.*). *Dose.*—2 to 4 grains.

This is a mixture of phosphorus 3, balsam of tolu 120, yellow wax 57, and curd soap 90, and contains phosphorus 1 in 90 of the mass.—P.J. 1874,902. The soap is added when dispensed; the other mixed ingredients are to be kept under water in a bottle. The writer has been in the habit of preparing phosphorus pills with the oil of theobroma solution of phosphorus devised by him, as follows:—P.J. 1870,414; L. ii./76,705; B.M.J. ii./76,641.

Pilula Phosphori (Martindale).

Dose.—1 to 3 grains.

Phosphorus	12 grains.
Oil of Theobroma ...	*q.s.*

Heat the oil to 300° F. and sustain the heat for 5 minutes. Strain and weigh 1188 grains into a wide-necked bottle with an indiarubber cork, and when cooled to 130° F. add the Phosphorus, cork and shake well till the fat begins to solidify. In rolling it into pills, divide into suitable lots, and beat each in a mortar to render it plastic before applying it to the machine, then work off quickly and cover with sandarach solution. The mass contains 1 per cent. of Phosphorus in perfect solution. It should be kept from the light.

When Phosphorus is to be combined with other ingredients in a pill, a more concentrated fatty basis is to be preferred. The following will contain about 10 per cent. of Phosphorus:—

Phosphorated Suet, 10 per cent.

Phosphorus	10 grains.
Pure Bisulphide of Carbon...	50 minims.

Dissolve and add

Prepared Suet	90 grains.

Add a little of the suet at first, mix quickly, add the remainder, mix thoroughly and allow the bisulphide to evaporate. This basis may be used to make the following pills.—*Dose* of each, one directly after meals.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Ferro** (3 grs.).

Phosphorated Suet... ...	10 grains.
Reduced Iron	150 grains.
Compound Tragacanth Powder	10 grains.
Chloroform...	15 minims.

Mix, and add quickly

Mucilage of Acacia *q.s.*

Mix, and divide into 50 pills. Cover with sandarach solution. The chloroform prevents phosphorescence and oxidation.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Ferro** (3 grs.) **et Nuce Vomica** ($\frac{1}{3}$ gr.).

Make as last, adding $\frac{1}{3}$ grain Extract of Nux Vomica to each.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Nuce Vomica** ($\frac{1}{3}$ gr.).

Prepare as the last pills, replacing the reduced iron by one grain of sugar of milk in each.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Quinina** (1 gr.).

Phosphorated Suet... ...	10 grains.
Quinine, pure (= 50 grs. Sulphate)	38 grains.
Chloroform...	20 minims.

Mix quickly, and add

Compound Tragacanth Powder	10 grains.
Mucilage of Acacia... ...	*q.s.*

Mix, and divide into 50 pills. Cover with sandarach solution.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Quinina** (½ gr.) **et Ferro** (3 gr.).

Make as last, using half the quantity of quinine there ordered, and adding 3 grains Reduced Iron to each pill.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Quinina** (½ gr.), **Ferro** (3 grs.), **et Strychnina** ($\frac{1}{40}$ gr.).

Prepare as the former pills, adding the proportionate quantity of strychnine.

Pilula Phosphori ($\frac{1}{50}$ gr.) **cum Strychnina** ($\frac{1}{40}$ gr.).

Prepare as Pilula Phosphori cum Quinina, with Strychnine 1¼ grains *vice* Quinine 38 grains.

Pilula Damianæ Composita.—See p. 175.

Tinctura Phosphori Composita. *Adopted by B.P.C. and G.H.* *Dose.*—3 to 12 drops on sugar.

Phosphorus...	3 grains.
Chloroform...	5 drachms.

Warm gently in a stoppered bottle till dissolved, and add the solution to

Ethylic Alcohol	25 drachms.

Shake well and keep in the dark. Contains 1 in 600.

Zinci Phosphidum, Phosphide of Zinc, U.S.

Dose.—$\frac{1}{20}$ to ⅓ grain.

A steel grey crystalline powder, of which about one-fourth of its weight is Phosphorus, but it has only about one-eighth the medicinal activity of the latter. It has been used in medicine as a form of administering Phosphorus. It is stable, not oxidised by trituration, and can readily be formed into pills by levigation with sugar of milk and glycerine of tragacanth.

Pilula Zinci Phosphidi.

One-sixth of a grain in each, prepared as above.

References to Phosphorus.

Relieves epileptiform vertigo, nervous break-down, anæmia, and neuralgia.—Pr. x.230.

For neuralgia, tic douloureux and hemicrania,

containing 30 per cent. of

Barium ... ... 8 oun
than 95 per cent. of
Acid
... ... of each q.

phite in 36 ounces of hot w
of diluted sulphuric acid,
drop by drop until no furt
set aside for 1 hour in a w
the precipitate with hot w
no longer an acid reacti
water bath to about 11½ oun

phis.

tabular crystals, soluble 1 i
ous saline taste.

is (*Off.*).

B.P.) grains.

lt, with a pearly lustre an
luble 1 in 7 of water. It
phorus with milk of lime u
ceases to be given off, t
to crystallize. The other s
this by the double decomp
lphates of their bases.

ypophosphitis.

hms. Each drachm contain

Calcium ... ... 160 grain
... ... 9 ounce
...
heat, and add ... 1 poun
Acid ... ... 20 mini
... ... *q.s.* to 1 pint

agnesii et Potassii Hy

P.C.

Calcium 2 grains, Hypop
and Potassium, of each 1 gr

frequent doses of $\frac{1}{20}$ to $\frac{1}{30}$ grain useful.—M.T.G. i./73,412.

Use in angina, essential or pernicious anæmia, and leucocythæmia.—Pr. xix.16.

Psoriasis, rapid cure by.—L. ii./76,877.

Use in leucocythæmia, debates and notes on.—L. ii./76,786,799,858,868.

Letters on pharmaceutical preparations of, recommending pills with oil of theobroma.—L. ii./76,705; B.M.J. ii./76,641; B.M.J. i./79,103,257,378,614.

Poisoning by phosphorus rat poison with recovery, treated with milk, solution of morphine and opium, and an enema of castor oil and opium.—L. i./80,644.

Two cases of lymphadenoma, showing the hæmatinic influence of Phosphorus. In one, during 5 months' treatment, the red blood corpuscles increased from 52 to 76 per cent.; in the other, from 62 to 80 per cent. in 31 days.—Pr. xxi.1.

In toxic doses given to fowls, Phosphorus causes an extreme diminution of the red blood corpuscles, which in one case fell to one-sixth of the original number, with a great decrease of metabolism.—L. i./81,887.

Tubercular meningitis, valuable in the treatment of.—Pr. xxiii.438.

Case of diabetes improved under Phosphorus.—B.M.J. ii./89,1216.

In rickets acts better and more rapidly than other remedies; small doses ($\frac{1}{130}$ to $\frac{1}{65}$ grain) are well borne by children for long periods—M.P.C. ii./90, 415 Th. Gaz. 1890,842.

The **Hypophosphites** of **Ammonium, Calcium, Iron, Potassium,** and **Sodium,** being salts which have their Phosphorus in weak chemical combination, are considered as possessing somewhat similar therapeutic properties to Phosphorus. They, like Phosphorus itself, can all be readily ignited when brought in contact with a naked flame. These salts have been much used as nervine tonics, and are specially serviceable in the incipient stages of phthisis, where there is little tendency to hæmorrhage.—the lime-salt is particularly useful in checking night-sweats. They are also valuable in the treatment of acne.

Acidum Hypophosphorosum, B.P.C.

Dose.—2 to 5 minims.

A colourless liquid, containing 30 per cent. of hypophosphorous acid.

Hypophosphite of Barium	8 ounces.
(Containing not less than 95 per cent. of Ba. 2 $(PH_2O_2)H_2O$.)	
Diluted Sulphuric Acid	
Distilled Water	of each *q.s.*

Dissolve the hypophosphite in 86 ounces of hot water, and add slowly 17 ounces of diluted sulphuric acid, continuing the addition drop by drop until no further turbidity is produced. Set aside for 1 hour in a warm place, and filter, washing the precipitate with hot water until the washings have no longer an acid reaction. Evaporate the filtrate on a water bath to about 11½ ounces, or until of sp. gr. 1·1367.

Ammonii Hypophosphis.

Dose.—1 to 6 grains.

In white deliquescent tabular crystals, soluble 1 in 2 of water. It has a nauseous saline taste.

Calcii Hypophosphis (*Off.*).

Dose.—1 to 6 (or 10, B.P.) grains.

A white crystalline salt, with a pearly lustre and a bitter, nauseous taste, soluble 1 in 7 of water. It is prepared by heating phosphorus with milk of lime until phosphoretted hydrogen ceases to be given off, then filtering and evaporating to crystallize. The other salts are generally prepared from this by the double decomposition of the carbonates or sulphates of their bases.

Syrupus Calcii Hypophosphitis.

Dose.—1 to 4 drachms. Each drachm contains 1 grain of the hypophosphite.

Hypophosphite of Calcium	160 grains.
Distilled Water...	9 ounces.

Dissolve, filter, and add

Sugar	1 pound.

Dissolve with a little heat, and add

Hypophosphorous Acid	20 minims.
Distilled Water...	*q.s.* to 1 pint.

Syrupus Calcii, Manganesii et Potassii Hypophosphitum, B.P.C.

Hypophosphite of Calcium 2 grains, Hypophosphites of Manganese and Potassium, of each 1 grain, Boiling Distilled Water 12 minims; dissolve, and add Syrup to 1 drachm. Filter or decant.

Dose.—½ to 1 drachm.

Ferri Hypophosphis.

Syn. FERROUS HYPOPHOSPHITE.

Dose.—1 to 5 grains in a pill with syrup.

In commerce is a whitish amorphous powder with a chalybeate taste, soluble almost entirely 1 in 8 of water.

Liquor Ferri Hypophosphitis Fortis, B.P.C.

Dose.—10 to 30 minims.

Sulphate of Iron	760 grains.
Hypophosphite of Barium ...	830 grains.
(Containing not less than 95 per cent. of Ba. 2 (PH_2O_2)H_2O.).	
Diluted Sulphuric Acid	100 minims.
Distilled Water	1 pint.

Put the sulphate of iron with 5 ounces of water in a tall 24-ounce bottle, and shake till dissolved. Dissolve the hypophosphite of barium in the remaining 15 ounces of water, and add slowly to the former solution. Shake and add the diluted sulphuric acid; again shake and set aside for 2 days, then syphon off the clear liquid. Keep it in bottles quite full.

Each drachm contains about 5 grains of hypophosphite of iron. The solution has an acid reaction, and should not give more than a faint precipitate, if any, with diluted sulphuric acid, or solution of chloride of barium.

Liquor Hypophosphitum Compositus, B.P.C.

Syn. LIQUOR FERRI HYPOPHOSPHITIS COMPOSITUS.

Hypophosphite of Calcium ...	320 grains.
Hypophosphite of Sodium ...	320 grains.
Hypophosphite of Magnesium ...	160 grains.
Strong Solution of Hypophosphite of Iron	6 ounces.
Hypophosphorous Acid, 30 per cent.	½ ounce.
Distilled Water	*q.s.* to 1 pint.

Dissolve and mix.

Each drachm contains about 2 grains each of hypophosphite of sodium and calcium, 1 grain of hypophosphite of magnesium, and 1½ grains of hypophosphite of iron.

Dose.—½ to 2 drachms.

Forms a much more useful "chemical food" for children than Parrish's preparation. Best administered in raisin wine, or for adults in Carlowitz.—B.M.J. i./80,472.

Syrupus Ferri Hypophosphitis, B.P.C.

Strong solution of Hypophosphite of Iron 4 ounces, Syrup 16 ounces. (5 grains of Citric Acid added, keeps it colourless).

Dose.—$\frac{1}{2}$ to 2 drachms.

Pilula Ferri Hypophosphitis cum Strychnina.

Strychnine $\frac{1}{30}$ grain, Hypophosphite of Iron 2 grains. To make one pill. *Dose.*—1 twice or thrice daily.

Manganesii Hypophosphis.—See p. 266.

Potassii Hypophosphis.

Dose.—1 to 6 grains.

A deliquescent granular white powder, having a nauseous, bitter taste. Soluble 1 in 1 of water.

Sodii Hypophosphis (*Off.*).

Dose.—1 to 10 grains.

A white granular deliquescent salt, with a bitter, nauseous taste. Soluble 1 in less than 2 of water.

Syrupus Sodii Hypophosphitis.

Dose.—1 to 4 drachms. Each drachm contains 1 grain of the Hypophosphite.

Hypophosphite of Sodium ...	160 grains.
Distilled Water	3 drachms.

Dissolve, filter, wash the filter with 1 drachm of distilled water, and add

Syrup, *q.s.* to	1 pint.

Syrupus Hypophosphitum Compositus, B.P.C.*

Dose.—$\frac{1}{2}$ to 2 drachms.

Quinine (alkaloid)	20 grains.
Strychnine	1 grain.
Hypophosphorous Acid, 30 per cent.	2 drachms.
Strong Solution of Hypophosphite of Iron	3 ounces.

***Syr. Hypophos. Comp.** (*American*).

The following formula has been published, based on an analysis; the product much resembles the advertised preparation:—Pyrophosphate of Iron (Sodio-citro-ferric Pyrophosphate) 15 grains, Hypophosphite of Sodium 45 grains, Strychnine (dissolved with a drop or two of Diluted Sulphuric Acid) $\frac{1}{4}$ grain, Hypophosphite of Manganese 15 grains, Sulphate of Quinine 5 grains, Distilled water 1 ounce. Heat gently to dissolve, without further addition of acid, and add to Syrup *q.s.* to weigh 16 ounces. *Dose.*—One teaspoonful.

Dissolve and add

Hypophosphite of Calcium ...	80 grains.
Hypophosphite of Manganese ...	40 grains.
Hypophosphite of Potassium ...	40 grains.

Dissolve, filter, and add

Syrup, *q.s.* to	1 pint.

In phthisis and like cases, hypophosphites raise the nervous power and improve the condition of the secretions.—L. i./61,518; B.M.J. i./80,472; P.J. 1882,603.

Phthisis, 57 out of 100 cases improved under their use. Considered the best general tonics in incipient consumption and in the more advanced stages when the progress of the disease has been arrested.—L. ii./79,311, 844. Further remarks.—B.M.J. ii./82,11.

In infantile diseases the use of the mixed hypophosphite salts is recommended.—B.M.J. i./80,472.

Of great use in cases of phthisis and pneumonia; absorption of effused products effected.—B.M.J. ii./91, 836.

Hypophosphite of lime the only one of value in tubercular disease.—L. i./92,519.

Wheat - Phosphates, Saccharated, the soluble part of bran—the organic phosphates and cerealin (ferment of bran) combined with sugar of milk—are specially useful in weakly and rickety children, and where digestion is impaired seem to aid the assimilation of food and even of such medicines as iron.

Dose.—Half a teaspoonful (increased) 2 or 3 times a day, may be taken as sugar with food.

PHYSOSTIGMA.

Calabar Bean (*Off.*).

Dose, in powder.—1 to 4 grains.

The poisonous properties of this drug, the dried seed of *Physostigma venenosum*, chiefly due to Physostigmine, are said to be contained principally in the integument.

Preparations of Physostigma and its alkaloid Physostigmine, applied topically to the eyes, contract the pupil, and are antagonistic to atropine.

For tetanus the dose of extract given by mouth, rectum, or hypodermically, should be repeated, and increased every hour, so as to produce paralysis little short of arresting the breathing. For chorea also it is given in smaller doses. In paralysis it arrests muscular wasting and improves muscular power. In hemiplegia or paraplegia, give doses of 1/30 to 1/16 grain frequently.—R.

Extractum Physostigmatis (*Off.*).

Dose.—1/16 to 1/4 grain, in a pill with sugar of milk; in cases of tetanus may be given every hour and increased.

This extract, if carefully prepared with alcohol of full strength, is dark brown, soft, and viscid, not miscible with water or glycerine, but may be emulsified with gum and spirit, as in the following formula.

Injectio Physostigmatis Hypodermica.

Extract of Calabar Bean ...	10 grains.
Rectified Spirit	10 minims.
Rub together till smooth, and add	
Gum Acacia	10 grains.
Mix, and add gradually	
Distilled Water to	½ ounce.

Dose.—3 to 12 minims.

Traumatic tetanus, cases of, treated with Calabar bean. 1/8 grain of the extract every hour, then 1/6 grain every 2 hours, was successful.—L. i./68,484,463.

Antagonistic to strychnine, *not* to be depended on as a remedy for poisoning by.—B.M.J. ii./74,805.

Eseridina. Eseridine.

Dose.—?

An alkaloid contained in calabar bean, and may be obtained as a derivative of physostigmine. It occurs in minute white crystals, only slightly soluble in ether.

Has only one-sixth the toxic action of physostigmine, but exercises a tetanic action on the spinal cord, and produces abundant mucous discharges from the intestines. —L. i./89,396; P.J. 1888,345; M.C. May, 1890,131.

Therapeutically as a laxative.—Th. Gaz. 1889,688.

Physostigmina. Physostigmine (*Off.*).

Syn. ESERINE. *Dose.*—1/100 to 1/60 grain.

The alkaloid is in large colourless rectangular crystals, slightly soluble in water, freely in ether, soluble 1 in 180 of vaseline. Solution in castor oil, ½ to 1 per cent. (by weight) is used.

Lamellæ Physostigminæ, Discs of Physostigmine. (*Off.*).

Each contains 1/1000 grain of Physostigmine; also prepared containing $\frac{1}{250}$ grain and $\frac{1}{500}$ grain respectively, for ophthalmic use. Also $\frac{1}{1000}$ grain, combined with cocaine $\frac{1}{200}$ grain.

Hypodermic Lamels contain $\frac{1}{100}$ grain.

Physostigminæ Hydrobromas, Physostigmine Hydrobromate.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain, may be increased to $\frac{1}{12}$ grain.

A whitish amorphous powder, as met with in commerce, slightly hygroscopic, very soluble in water.

Physostigminæ Salicylas, Physostigmine Salicylate, U.S., and P.G. III.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain, may be increased to $\frac{1}{12}$ grain.

In colourless, shining, needle-shaped, or short columnar crystals. A stable salt, soluble 1 in 140 of cold water, forming a colourless solution, which becomes red in a few days, but does not lose much in efficacy.

Injectio Physostigminæ Salicylatis Hypodermica.

One grain in distilled water *q.s.* to 160 minims.

Dose.—1 to 6 minims. May also be used as eye-drops like the solution of the sulphate.

Physostigminæ Sulphas, Physostigmine Sulphate, P.G. III.

Dose.—$\frac{1}{60}$ to $\frac{1}{20}$ grain, increased to $\frac{1}{12}$ grain.

A whitish amorphous powder, very hygroscopic and soluble in water.

Guttæ Physostigminæ, R.O.H.

Sulphate of Physostigmine 2 grains to Distilled Water 1 ounce; also **Guttæ Physostigminæ Fortiores,** 4 grains to 1 ounce; and a combination of Sulphate of Physostigmine 1 grain with Hydrochlorate of Cocaine 5 grains to 1 ounce.

Injectio Physostigminæ Sulphatis Hypodermica, 4 grains to 1 ounce.

Dose.—1 to 4 minims.

References.

For chorea $\frac{1}{32}$ to $\frac{1}{12}$ grain or more of sulphate hypodermically; also in tetanus.—L. ii./75,187; P.J. 1889. 704; Th. Gaz. June, 1888, 386.

For corneal ulcers in scrofula, solution of 2 grains to an ounce dropped into the eye; also in mydriasis and glaucoma.—Pr. xxi.294.

Presbyopia, useful for, $\frac{1}{500}$ to $\frac{1}{200}$ grain in solution dropped into the eye at a time.—M.T.G. i./76,174.

Use of salts as myotics.—B.M.J. ii./79,363.

Acute glaucoma, cases of, cured by 2 or 3 eserine discs applied daily.—B.M.J. ii./81,921.

Use of in glaucoma and ocular neuralgia.—B.M.J. i./82,811.

Use of as a preliminary to extraction in cases of cataract. —B.M.J. ii./82,1293.

Painful corneal ulcers successfully treated with Eserine drops and warmth.—B.M.J. ii./83,864.

In glaucoma Eserine is indicated, in iritis Atropine.—Pr. xxxi.321.

Eserine may also cause glaucoma.—L. i./84,99.

Traumatic tetanus, a case recovered under doses of $\frac{1}{6}$ grain of sulphate of Physostigmine every two hours. —Pr. xxxiii.255.

Eye diseases; a summary of those in which Physostigmine will do good.—Pr. xxxiv.104.

Ocular pressure increased by its use.—L. ii./86,183.

Effects of eye-drops containing 1 grain in 1 drachm, instead of 1 ounce.—L. i./87,621.

Use of eye-drops caused nausea and vomiting.—B.M.J. ii./87,510.

Tetanus following abortion treated by physostigmine hypodermically up to $\frac{1}{8}$ grain. Tolerance of the drug disappeared with the tetanus.—Th. Gaz. Dec. 1890,837.

PHYTOLACCIN.

Dose.—1 to 5 grains, in a pill with glycerine of tragacanth.

The powdered extractive, of a pale brown colour, obtained from poke root, *Phytolacca decandra.* Is nauseant and emetic, cathartic and alterative, used in syphilitic and rheumatic affections.

As a hepatic stimulant on the dog has considerable power; it also slightly stimulates the intestinal glands.—B.M.J. ii./78,912; Pr. xxiii.410.

Tinctura Phytolaccæ.—1 of root in 10 of equal parts Rectified Spirit and Water.

Dose.—3 to 10 minims.

Local application relieves painful mammæ, given internally at same time.—B.M.J. ii./87,844,921.

Orchitis relieved by 4- to 6-minim doses; is an antiscorbutic and antisyphilitic.—L. ii./85,1161.

PICROTOXINUM.

Picrotoxin (*Off.* and U.S.).

Dose.—$\frac{1}{100}$ to $\frac{1}{30}$ grain.

A neutral crystalline principle obtained from the seeds of *Anamirta paniculata*—cocculus indicus, in white needles or in laminæ, does not form salts. Nearly entirely soluble 1 in 330 of water, soluble 1 in 13 of rectified spirit, freely in glacial acetic acid and caustic alkaline solutions. It requires about 500 parts of olive oil or lard to dissolve it, and 60 parts of glycerine even if heated to 212° F.; most of it also crystallizes out on cooling. Taste bitter. It has been used with good results in checking night-sweats, also employed in epilepsy and chronic alcoholism; overdoses cause stupor, delirium, and convulsions. Other principles, Menispermic Acid, Anamirtin, and Cocculin, are stated to be contained in cocculus indicus, in addition to Picrotoxin, which can be split up into two separate principles, Picrotoxinin and Picrotin.

Injectio Picrotoxini Hypodermica.—1 in water 360, filtered. *Dose.*—3 to 6 minims.

Liquor Picrotoxini Aceticus.

Picrotoxin 8 grains, Glacial Acetic Acid 4 drachms. Dissolve and add Distilled Water to 4 ounces. Filter. *Dose.*—2 to 12 minims in water.

Is palatable and keeps in solution at all temperatures. —Pr. xxv.93; B.M.J. i./80,351.

Pigmentum Picrotoxini.

Picrotoxin 8 grains, Glacial Acetic Acid 4 drachms. Dissolve and add Castor Oil 4 drachms, Oil of Eucalyptus 16 minims.

Has been recommended for ringworm of the scalp, but is not so efficacious as Coster's paste and other remedies; the Pigment will bear dilution with castor oil for parasitic skin diseases, destroying pediculi, &c.

Pilula Picrotoxini.

Picrotoxin $\frac{1}{60}$ grain, triturated with sugar of milk and glycerine of tragacanth *q.s.*, to make one pill. Forms a suitable dose for checking night-sweating of phthisis taken for 2 or 3 nights successively, it is slightly cumulative, and may be discontinued and yet its effects last.

Physiological effects.—Edin. Jour. Med. 1861,306.

Epilepsy, useful for, especially when combined with anæmia and when the attacks occur at night.—St. Louis Clin. Rec. Oct. 1876.

Epilepsy and pharyngeal paralysis, good effects of $\frac{1}{25}$ grain by hypodermic injection.—Pr. xvii.369.

Night-sweating of phthisis, 2 to 4 minims of the acetic solution or $\frac{1}{120}$ to $\frac{1}{60}$ grain in pill was very efficient; does not, like atropine or belladonna, produce dryness of the throat, or any unpleasant effect.—Pr. xxiii.241.

Antagonism between Picrotoxin and chloral-hydrate; $\frac{1}{20}$ grain sufficient for 30 grains of chloral.—B.M.J. i./75,506,541; L.H. 238.

Periodical sick-headaches, $\frac{1}{60}$ to $\frac{1}{20}$ grain by hypodermic injection, or $\frac{1}{30}$ to $\frac{1}{15}$ grain by mouth; and an ointment 10 grains to an ounce, is used for parasitic skin affections.—B.

Used in epilepsy, not successful.—L. i./80,553.

Therapeutic uses, in checking night-sweats, &c.—B.M.J. i./80,96.

Letter on its pharmaceutical preparations.—B.M.J. i./80,351.

Antidotism to morphine and chloroform asphyxia.—L. i./89,497; P.J. 1889,703; Th. Gaz. 1889,184.

Allied to pilocarpine and muscarine, antagonistic to morphine. Best antidote is chloral hydrate.—L.ii./90,641.

Pilocarpine.—See p. 252.

PILULÆ.

Pills.

Medicines prepared in a pilular form are very portable, as they can be supplied to the patient in the smallest possible bulk in equally apportioned doses. The pill is a convenient mode of administering nauseous medicines, those that are insoluble in water and not easily suspended in it, and those drugs whose gradual action is required. A pill should be perfectly globular and firm, so as not to lose its shape, yet should not be too hard so as to be insoluble, or even slow in dissolving, unless the prescriber wishes it, as is sometimes the case; *e.g.*, 5 grains of dried sulphate of iron with one minim of syrup form a not very large but useful pill, which, by dissolving slowly, does not derange the stomach, whereas an equivalent dose of the salt in solution would, in many cases, act as an emetic. Again, dinner pills of aloes and mastic are prescribed to be made up with spirit by some physicians, who intend them to dissolve, not in the stomach, but in the bowels principally, where their peristaltic action is required. It is the duty of the dispenser not to deviate from using the excipient ordered, unless, for example, a fluid excipient is ordered along with extracts whose normal condition is too soft to begin with. If the choice of the excipient be left to the dispenser, as is often the case, he should choose one which will not be incompatible with, but, if possible, have a preservative action on the other ingredients of the pill, neither inconveniently increase its size nor interfere with the quick or prolonged action intended by the prescriber.

The Pill Mass, in the first place, should be firm and solid, yet possess tenacity and be plastic when worked. As, in building a wall, bricks and mortar are required in due proportion, so a good pill mass requires particles void of fluidity, with adhesive, semifluid substance to bind them together. Where there is but little fibrous or insoluble solid particles prescribed, the mass should be made as hard as possible and quickly rolled out, else the pills will not keep their shape. Most vegetable powders contain fibrous matter and have their adhesive properties while dry in a latent condition, these merely require a suitable fluid added to develop their tenacity and enable them to be rolled into pills. As a powerful solvent and preservative, glycerine, diluted with one-half its volume of rectified spirit, used discreetly, is a good excipient for such powders. If used in the pure state in the slightest excess, glycerine, being slightly hygroscopic, causes the pills in time to have an unsightly, moist appearance, whereas, if diluted with spirit, the spirit readily evaporates from them. Glycerine in any form should not be used as an excipient for hygroscopic drugs, such as soft extracts, squills, aloes, &c. For these mucilage of acacia or syrup is preferred. For insoluble metallic salts, glycerine requires additional adhesiveness, for such and a number of other drugs it is best used in the form of glycerine of tragacanth (see p. 397), adding, if necessary, a small quantity of powdered acacia or althæa to give firmness to the pill. The use of glycerine should be avoided in pills intended to be varnished; in place of glycerine of tragacanth, use for these a little of equal parts acacia and tragacanth, with syrup *q.s.*

Powders to be formed into pills should be as finely comminuted as possible; any poisonous alkaloid or very active drug should be well triturated with some less active powder, or, if the formula contains no other powder, with a little sugar of milk, before mixing with the other ingredients. Having mixed the powders and diffused any essential oil evenly through them, the extracts and other excipients should be added, the whole well pounded into a mass, rolled into pills, and dusted over with lycopodium, powdered starch, or French chalk, in the usual manner.

But the public now require pills to be made as tasteless and as small as possible. A one-grain pill is much preferred to a 5-grain one; yet, unless specially ordered otherwise, when the ingredients prescribed for each pill weigh less than one grain, it is a rule with dispensers, for uniformity's sake, to triturate the ingredients with sugar of milk and glycerine of tragacanth or acacia and syrup *q.s.* to make each pill weigh one grain. These excipients are generally as neutral as any that can be chosen.

As a means of rendering pills tasteless, silvering or gilding is giving place to covering them with solution of sandarach, gelatine, or pearl-coating them with French chalk and gum, or sugar-coating them.

Varnishing Pills.—The writer's plan of using a sandarach solution — 1 part sandarach in 1 part of absolute alcohol (= Pill Varnish: Pharm. Jour. 1870,414)—may be done extemporaneously. The pills should be perfectly made—well mixed, and free from contamination and powder, as every imperfection will show through the transparent coating. Having placed them in a covered pot, a few drops of the sandarach solution are poured in and diffused equally over the pills by a few circular movements of the pot held in one hand. They are then poured out on a clean plate and detached from each other. After 4 minutes each one is moved, and in 10 minutes all are moved and again shaken. In about 20 minutes they will be quite dry, but are better allowed to be exposed to the air an hour or so more.

In coating Pills with **Gelatine,** they should be fr from powder, and not too dry. A solution is prepared by dissolving 1 part of gelatine in 4 parts of water, straining whilst hot through fine muslin, allowing to cool and re-heating to get rid of air bubbles. The pills are stuck on the points of fine needles and dipped into the solution, kept hot by a water bath; as they are taken out, each needle is slowly revolved to make the coating even on the pill, the reverse end of the needle is then stuck into a sheet of cork or pincushion, and the needles are left in this upright position till the pills are dry, which is usually in about half an hour.

In **pearl-coating** Pills they should be made firm and free from powder; they are first evenly covered with a mucilage of tragacanth 4 grains to 1 ounce with half a drachm of syrup added; this is done by shaking them in a covered pot with a few drops of the mucilage, they are then thrown into another covered pot having a concave bottom and containing some finely powdered French chalk; after gently rotating them in this for a few seconds they are turned into a third clean and similar pot and rotated slowly; the excess of powder is then blown off, the lid placed on the pot, and they are finished by shaking them quickly and regularly round until they become even and polished.

The **sugar-coating** of Pills is a confectioner's art. It can only be done successfully in large quantities, and the pills must be hard and dry; they are placed in a hemispherical metallic pan kept warm, while making eccentric revolutions, and are alternately moistened with syrup, and dusted with finely-powdered sugar, till dry and uniformly covered.

Keratine-coating of Pills is performed for the purpose of rendering them insoluble in the gastric juice, so that they pass into the intestine unchanged. Their action is thus localised. For this purpose, only oily excipients should be used, and the pills covered with a thin layer of cacao-butter previous to applying the **Keratine Solution.** The latter is made by removing from horn shavings all that is soluble in pepsin and diluted hydrochloric acid. The residue is dissolved in solution of ammonia or glacial acetic acid, and evaporated to a mucilaginous consistence—this forms the gum-like liquid, keratine solution. The pills require three coatings with this liquid, and so prepared they are freely soluble in the alkaline liquid in the intestine; and, although insoluble in the acid gastric juice, their coating is partially soluble in acetic and citric acids, which should therefore not be taken at the same time.—P.J. 1884,422; 1889,1035.

Should be employed for pills containing substances which irritate gastric mucous membrane, neutralize acidity of stomach, or are desired to act on intestinal membrane without action on stomach, such as those intended to destroy worms.—L. ii./90,838.

Keratine. P.G. III. A pale brown amorphous powder. Is prepared as on p. 332 from quill shavings and acetic acid, and evaporated to dryness. It requires to be redissolved in ammonia or acetic acid for use.

Concentric Pills consist of several distinct layers of medicaments, each layer coated separately, ensuring the successive digestion of the drugs; or, if required, their solution in different parts of the body, *e.g.*, an external coating of gelatine dissolves in the stomach, an inner of keratine in the intestine; ensuring localised action.—B.M.J. ii./86,683; C.&D. ii./86,735,774.

Salol Varnish for pills intended to act in intestines only.—See p. 31.

In all pharmacies it is found convenient to keep a number of pills besides those of B.P. ready prepared. A list of those in general request in London is contained in the index.

Cachets are lenticular capsules of wafer paper, consisting of two watch-glass shaped halves, of various sizes, which cohere on moistening the margins.

They are useful for enclosing nauseous or insoluble medicines, drugs that do not yield all their activity to any solvent, and those whose suspension in fluids is difficult or inaccurate owing to non-diffusibility or decomposition, such as rhubarb, cascara, bismuth, pepsine, quinine, antipyrin, antifebrin, salicin, salicylate of sodium, salol, sulphonal, tetronal, metaldehyde, naphthalin, naphthol, saccharated carbonate of iron. They should be dipped in water immediately before swallowing.

Empty Gelatine Capsules are short tubes closed at one end, telescoping into one another, used for a similar purpose.

A pill, cachet, or, in fact, any medicine, should always be followed by a draught of water, to carry it quickly through the œsophagus.

PINUS SYLVESTRIS.

Scotch Pine (*Off.*).—*Syn.* SCOTCH FIR.

From the wood of this much of the European oleo-resin, common turpentine, oil of turpentine,* and tar are produced. From its leaves also are prepared an extract, volatile oil and wool, at certain establishments in Germany, where a system of treatment of rheumatism and other diseases by baths, &c., known as the **Pine Cure,** is followed.

Fir Wool, or Fir Wool Wadding, sold in sheets, is a cotton wool, impregnated with the above; it has the faint, agreeable odour of the Pine-leaf, and is manufactured into blankets, jackets, spencers, stockings, &c. A Liquor is also obtained, which is employed for baths. On evaporation this yields

Extractum Pini Sylvestris. Fir-Wool Extract.

A dark brown liquid of the consistence of treacle, readily soluble in water and having a faint pine odour; 2 to 4 ounces are added to a 30-gallon warm bath for rheumatism.

Oleum Pini Sylvestris. Fir-Wool Oil (*Off.*).

In the preparation of the wool this is obtained by distillation from the pine-leaf. It is colourless, and has the agreeable odour of the fresh pine-leaf. It has Sp. Gr. 0·868. For rheumatism it is applied by rubbing, and the affected part is afterwards covered with warmed Fir-wool wadding; it is also added in quantities of a drachm or more to warm baths for the same disease.

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* **"Sanitas" Disinfectants,** prepared from oil of turpentine, include:—

"Sanitas" Fluid, the aqueous solution resulting from the action of water upon air-oxidised turpentine, containing as its active principles peroxide of hydrogen, thymol, a soluble camphor, and some camphoric acid. It is an oxidising agent and an antiseptic, is non-poisonous, does not stain linen, is useful for household disinfection and for surgical operations. **Toilet "Sanitas"** is similar, with an agreeable perfume. **"Sanitas" Oil** is an air-oxidised turpentine, the oxidation being conducted in the presence of water; it has Sp. Gr. 0·95. An organic peroxide is present in it, which gives it an oxidising strength equal to that of a ten-volume solution of peroxide of hydrogen. As an antiseptic it may be mixed with sawdust and sprinkled about, or diluted with alcohol or methylated spirit and sprayed in a room, or diluted 1 in 8 to 20 of olive oil for various surgical dressings and affections of the skin. Mixed with powdered acacia, then boldly diluted with water and well shaken, it forms a "Sanitas" emulsion which can be diluted further *ad lib.* for various purposes. **Soluble "Sanitas" Oil** emulsifies with water, and is also miscible with oils, fats, and petroleum bases. Is used of strength 1 in 20 of water as a disinfectant.

Vapor Olei Pini Sylvestris (*Off.* and **T.H.**).

Fir-Wool Oil 40 minims, Light Carbonate of Magnesium 20 grains, Water to 1 ounce. One drachm to a pint of water at 140° F. forms a mild stimulant inhalation in chronic laryngitis.

Oleum Pini Pumilionis, T.H., 1876 (but deleted from last edition). Under the fancy names of Pinol and Pumiline, the oil of the leaf of Pinus Pumilio is recommended as possessing more agreeable odour and taste than the last. The oil is used for inhalations, and an extract for baths. Jujubes, pastilles, and soaps are also sold, medicated with the oil.—L. i./88,463.

Sanitary Wood Wool, and **Wood Wool Wadding** consist of finely-comminuted pine wood, rendered antiseptic with sublimate; they are very absorbent, and are now much used for dressing wounds; and the wadding is formed into "**towelettes**" for ladies' use in menstruation and hæmorrhage, and into accouchement sheets, and **gonorrhœa bags**; triangular pads are also made (bapkins) to assist in the cleanliness and comfort of infants.—L. ii./87,806,848; B.M.J. ii./87,1044.

PIPERAZINA.

Piperazine.—*Syns.* PIPERAZIDINE, ETHYLENIMINE, DIETHYLENE-DIAMINE, "SYNTHETIC SPERMINE."

Dose.—4 to 10 grains, or 15 grains daily.

A compound formed by the decomposition by heat of ethylene-diamine hydrochloride, in small colourless deliquescent crystals, non-caustic, but with strongly alkaline reaction, saline taste and faint odour, soluble about 1 in 4 of water. Dissolves twelve times as much uric acid as lithium carbonate, and the urate formed is soluble in much less water. Even in presence of excess of uric acid the neutral salt only is formed.

Given internally, is a powerful solvent of uric acid in the system, and is reputed to have an aphrodisiac effect.

Having no irritant action, may be used in 1 or 2 per cent. solution injected into the bladder as a solvent for uric acid calculi. Also injected hypodermically.—P.J. 1890,557; 1891,664; 1892,812; Pr. xlvii.57; xlviii. 379; B.M.J.E. ii./90,22.

Granular Effervescent Piperazine, contains 5 grains in a drachm. *Dose.*—1 drachm.

Piperazine Water, Aërated.

This contains 5 grains to the average tumblerful, or 15 grains to a syphon, and is a pleasant and efficacious mode of administration.

PIPERINA.

Piperine, U.S. *Dose.*—1 to 10 grains.

A crystalline base obtained from black and long pepper, the fruits of *Piper nigrum* and *Piper longum*, in large colourless prisms, which turn yellow with keeping. Insoluble in water, soluble in alcohol, and less soluble in ether. Almost tasteless, but its spirituous solution has a peppery taste. The pungency of pepper is not due to Piperine. It has been used in conjunction with eucalyptol for neuroses and congestion of the spleen.

Febrifuge action is energetic, it neither changes, retards, nor suppresses any secretion or excretion.—M.T.G. ii./60,18.

Ague cured by 18 grains daily.—B.M.J. ii./86,449.

PISCIDIA.

Jamaica Dogwood.

The bark of the root of this tree, *Piscidia erythrina*, is employed in the West Indies to intoxicate fish. In America it is employed to relieve toothache, and as a general sedative; it is said to be specially useful in allaying the cough of bronchitis and phthisis; does not interfere with expectoration, or lower the vital force. —P.J. 1844,76,111. It is said to be an effective substitute for opium, to allay pain, spasm, and nervous excitement, and to produce sleep. It dilates the pupil.

Extractum Piscidiæ Liquidum.

Dose.—20 minims to 2 drachms.

One drachm equals 1 drachm of the bark. Is a good narcotic, does not cause headache nor constipation.—B.M.J. ii./83,903; P.J. 1886,1014,162.

PIX LIQUIDA.

Tar (*Off.*). *Dose.*—2 to 10 grains in a pill with lycopodium, or in perles.

Since Bishop Berkeley wrote his "Siris" in praise of tar-water, to which the phrase, "cheer but not inebriate," was applied by him, and since Dickens's "Joe Gargery's wife" had such belief in its virtues, when given internally, Tar has comparatively fallen into disuse.

As a diuretic and in bronchial catarrh and winter cough, it is very useful.—B.M.J. ii./75,380,498.

On account of their antiseptic properties, both Wood and Coal Tar and preparations of them have been used for surgical dressings. The former yields Creasote, which is a much more powerful although a less manageable germicide than the carbolic acid or cresylic acid contained in the latter. During the late American war oakum (old tarred rope carded) was much employed as an absorbent antiseptic wound-dressing; but generally its fibres are too coarse and harsh; yet, under the name of **Tenax,** a fine carded oakum is sold in 1-lb. packets.

Marine Lint, also in 1-lb. packets, is tow impregnated with fresh tar; is a cheap and useful antiseptic dressing.—B.M.J. i./80,476.

Aqua Picis. **Tar Water.**—*Syn.* Aqua Piceà; Eau de Goudron (Codex 1884). *Dose.*—5 to 10 ounces.

Tar 1, Pine Sawdust 3. Mix and add Distilled Water 200. Macerate, with frequent shaking, for 24 hours, and filter.

Liquor Picis Carbonis et Ligni and **Liquor Picis Ligni.**—See p. 125.

Oleum Picis Rectificatum, Light Oil of Tar

Two distilled oils of Wood Tar are met with in commerce, one light, known also as Rectified Spirit of Tar, having Sp. Gr. 0·853 to 0·867, is colourless when fresh, but becomes sherry-coloured with age; this is a most powerful deodoriser, and is used for making Coster's paste (p. 248). The other is an opaque black dense oil, heavier than water.

Perles of Tar.

Dose.—1 or 2. The Tar is enclosed in small globular capsules, containing about 2½ grains in each.

Pilula Picis Liquidæ. *Dose.*—1 or 2.

Tar 2 grains, Lycopodium 1 grain. Useful for winter cough.—B.M.J. i./75,498.

Syrupus Picis Liquidæ, Syrup of Tar, U.S.

Tar 6 (washed with cold water 12, during 24 hours), stir with Boiling Water 50 for 15 minutes, and after 36 hours filter, and dissolve Sugar 60 in filtrate without heat. *Dose.*—1 to 4 drachms.

Taste may be covered by addition of an equal quantity of syrup of wild cherry (see p. 343); $\frac{1}{33}$ to $\frac{1}{10}$ grain of hydrochlorate of apomorphine may also be added to each dose. Useful in chronic bronchitis and winter cough.—B.M.J. i./88,463; M.P.C. i./89,213.

Unguentum Picis Liquidæ. Tar Ointment (*Off.*).

Tar 5, Yellow Wax 2. Useful in psoriasis.

For use in skin diseases, four special kinds of Tar, imported from Germany, are met with. Unlike common Tar, they are perfectly liquid. They are also known as empyreumatic or pyroligneous oils, viz.:—

Oleum Betulæ Pyroligneum. Birch Tar.

Oleum Cadinum. Oil of Cade (*Off.*).—*Syn.* **Oleum Juniperi Pyroligneum. Juniper Tar Oil. Huile de Cade.** From *Juniperus Oxycedrus* and some other species.

Oleum Fagi Pyroligneum. Beech Tar. On the Continent used as a source of creasote.

Oleum Rusci Pyroligneum. Said to be obtained from **Butcher's Broom.** Is really a Birch Tar, identical with the above.

These Tars have similar properties for forming ointments for skin diseases; their odour is less disagreeable, they are cleaner, and they are thought to be more efficacious than common Tar. The Birch Tar is esteemed on account of its peculiar odour, well known in Russia leather. Oleum Cadinum (Huile de Cade) is the most used. They are all soluble in oils, fats, wax, unctuous petroleum, and chloroform, but do not perfectly blend with alcohol.

Unguentum Olei Cadini. *Adopted by G.H.*

Melt Yellow Wax 1, add Huile de Cade 1, and stir till cold. Used in psoriasis and dry eczema. Similar ointments may be made of the other Tars, the proportions may be varied and lard may be used as a diluent if a weak ointment be required.

Chronic eczema, 2 cases cured by an ointment of Oil of Cade 1, Vaseline 4.—B.M.J. ii./83,817.

An ointment of Glycerine of Starch 100, Oil of Cade 100, Green Soap (see p. 416) 5, recommended for psoriasis.—Pr. xli.222.

PODOPHYLLIN.

Syn. RESINA PODOPHYLLI (*Off.*).

Dose.—$\frac{1}{4}$ to 1 grain as a cholagogue and aperient, $\frac{1}{30}$ to $\frac{1}{15}$ frequently as an alterative.

The resin obtained from the dried rhizome of *Podophyllum peltatum*—American mandrake, or May apple, sometimes called vegetable mercury, as it is a powerful biliary purgative. It is a pale greenish-brown amorphous powder, with an herby odour and acrid taste, soluble in aqueous ammonia, almost entirely soluble in rectified spirit, leaving undissolved inorganic impurity, with, it is said, traces of hydrochlorate of berberine.

The crude resin may be divided by treatment with ether, which dissolves a portion and leaves another which is soluble in alcohol but not in ether. The former has a bright yellow colour, an herby odour, and acrid taste; the latter has a pale brown colour, is odourless, and has a less acrid taste than the other. The writer found little difference in their purgative action. The brown resin was more prompt.—Pr. xxviii.54; P.J. 1877,456. The crude resin is a slow and rather uncertain purgative, requiring from 12 to 20 hours to act.

In a later research by Podwissotzki, he obtains from a chloroformic extract of the root an amorphous principle, which is free from the fatty and colouring matters of the official resin. This he names **Podophyllotoxin**; it is more certain in its action than Podophyllin and is given in dose of $\frac{1}{10}$ to $\frac{1}{8}$ grain, to children $\frac{1}{60}$ to $\frac{1}{30}$ grain. It is best administered by dissolving 1 grain in 2 drachms of rectified spirit. Dose, 2 to 10 drops in a teaspoonful of syrup.—P.J. 1882, 623,1011; L. ii./81,568; M.R. 1883,14. **Podophyllotoxin** is in its turn capable of being separated into a bitter crystalline acid (Picropodophyllic Acid), a bitter, crystalline neutral body (Picropodophyllin), the latter of which is the more medicinally active, and an amorphous substance (Podophyllic Acid) which is inert. Physiological action of crystallised podophyllotoxin.—B.M.J.E. i./91,15.

Pilula Podophyllin.

$\frac{1}{30}$, $\frac{1}{4}$ or $\frac{1}{2}$ grain of the resin in each, well triturated with sugar of milk, acacia, and syrup *q.s.*, to one pill.

Pilula Podophyllin Composita, U.C.H.

Podophyllin $\frac{1}{4}$ grain, Barbadoes Aloes 1 grain, Capsicum $\frac{1}{2}$ grain, Extract of Belladonna $\frac{1}{4}$ grain, Glycerine of Tragacanth *q.s.* To make one pill. One or two form a biliary aperient dose.

Pilula Podophyllin et Quininæ.

Sulphate of Quinine 1 grain, Podophyllin $\frac{1}{12}$ grain, Sugar of Milk $\frac{1}{12}$ grain, Extract of Belladonna $\frac{1}{6}$ grain, Extract of Socotrine Aloes 1 grain. To make one pill. In making these pills, let the podophyllin be well triturated with the sugar of milk and then with the quinine. They are useful "dinner pills."

Tinctura Podophyllin (Dobell).

Podophyllin 1 grain, Essence of Ginger 1 drachm, Rectified Spirit to 1 ounce. *Dose.*—A teaspoonful in water at bedtime every, or every 2nd, 3rd, or 4th night, as required, better than in pill; this forms "one of the most satisfactory and reliable of our medicines."—B.M.J. i./79,892.

Tinctura Podophylli (*Off.*).

Podophyllin 1 grain, Rectified Spirit 1 drachm.

Dissolve and filter. *Off. dose*—15 to 60 minims.

In dose of 2 to 4 drops in tea or coffee, taken night and morning, is useful in sick-headache and biliousness, where the bowels and liver are sluggish in worried and over-worked patients, and in chronic diarrhœa with cutting pains and high-coloured motions. Also relieves constipation with clay-coloured motions following diarrhœa of infants, 1 or 2 drops on sugar twice or three times a day.—R. Its taste is acrid and disagreeable.

Tinctura Podophyllin Ammoniata.

Podophyllin 1 grain, Aromatic Spirit of Ammonia 1 drachm. Dissolve, and after standing, decant.

Dose.—2 to 6 minims as an alterative, 10 to 20 minims as a purgative and cholagogue, taken in a wineglassful of water or milk. Good Podophyllin dissolves almost entirely in spirit of sal volatile. This tincture has an advantage over the other tinctures of Podophyllin of forming a solution from which, on addition to water, the resin does not separate. The sal volatile also acts as a corrective.

A powerful hepatic stimulant, and in large doses a violent purgative. It is a very powerful stimulant of the liver of the dog. During the increased secretion of bile, the percentage of the special bile solids is not diminished; if the dose be too large, the secretion of bile is not increased; it is a powerful intestinal irritant.—Pr. xxiii.335; B.M.J. Rep. 1878,4; B.M.J. i./79,177.

Résumé of its medical properties, as a purgative and cholagogue, used in syphilis, rheumatism, and scrofula. —M.T.G. ii./70,647.

For diarrhœa in children due to defective secretion, $\frac{1}{60}$ to $\frac{1}{30}$ grain every 5 hours. Is not followed by constipation.—B.M.J.E. ii./90,23.

POTASSIUM.

Potassa cum Calce, P.L., consists of equal parts, in powder, of caustic potash and quicklime; it is also sold moulded into pencils. For **Vienna Paste,** see p. 366.

Potassii Cobalto-nitris. Cobalto-nitrite of Potassium. *Dose.*—$\frac{1}{2}$ grain every 2 or 4 hours.

A greenish-yellow crystalline powder, slightly soluble in water. Is said to produce less discomfort than other nitrites, and to relieve arterial tension. Relieves the dyspnœa in uræmia and asthma.—Pr. xli.457; P.J. 1888, 347; Th. Gaz. Oct. 1888,635.

Potassii Cyanidum, Cyanide of Potassium (*Off.*).

Used to purify bismuth; may be either in fused masses or in crystals. No dose is mentioned, but $\frac{1}{12}$ to $\frac{1}{4}$ grain may be given; a solution of one grain of the crystals in 23 minims ($20\frac{10}{13}$ grain-measures) of distilled water is equivalent in strength to Acidum Hydrocyanicum Dilutum (2 per cent.), in place of which it is sometimes used.

Potassii Nitras, Nitrate of Potassium (*Off.*). *Syn.* NITRE. *Dose.*—5 to 30 grains.

Fumus Potassii Nitratis (Nitrated Papers), T.H.P.; Charta Nitrata.

Nos. I. II. and III. are made by saturating white blotting-paper with solutions of Nitre, 30, 45, or 60 grains respectively in an ounce, and drying. No. III. is the strongest. Burnt to inhale the fumes for asthma.

Asthmatic Pastilles are prepared in cones containing a mixture of chlorate and nitrate of Potassium.

Ozone Papers are similar in composition.

In addition to the above, various powders and cigarettes are sold as nostrums, the fumes of which while burning are employed to relieve attacks of asthma, of which Nitre is a constant and Stramonium is generally an ingredient; Himrod's Cure, Bliss's Cure, and the Green Mountain Cure may be imitated by the following:—

Pulvis Lobeliæ Compositus.

Nitrate of Potassium 2 ounces, Boiling Distilled Water 2 ounces. Dissolve and add to Lobelia in powder, Stramonium Leaves in powder, Black Tea in powder, 2 ounces of each. Mix well, dry, and add Oil of Anise 4 minims. The fumes of half a teaspoonful or more, burnt on a plate, to be inhaled six or eight times a day, and the bedroom fumigated with the same.

Ophthalmic discs contain $\frac{1}{250}$ grain nitrate of potassium combined with gelatine.

Potassii Permanganas.—See 266.

Potassii Phosphas, Phosphate of Potassium, Dipotassic Hydric Phosphate.

A deliquescent granular powder; is given as an alterative in phthisis and urinary affections. *Dose.*—1 to 10 grains.

Potassii Salicylas.—See p. 29.

Potassium Silicate, solution of.—See p. 368.

Potassii Succinas, Succinate of Potassium.

A deliquescent powder; has been used in doses of 5 to 10 grains to control hæmorrhage. **Ferri Succinas,** Ferric Succinate, a reddish-brown insoluble powder, has been given to remove biliary calculi in jaundice.

Potassii Telluras. *Dose.*—$\frac{1}{3}$ grain in pill once daily.

Arrested or greatly reduced night-sweats of phthisis; day-sweats required rather larger doses. Indigestion only followed continuance of 1 grain daily.—L. ii./90, 365; i./92,657; Pr. xlv.373; P.J. 1890,164.

PRUNUS VIRGINIANA.

Wild Cherry Bark, U.S.

This bark contains amygdaline, and on distillation with water yields an essential oil which is rich in hydrocyanic acid; on simply moistening the bark with water, the odour of the latter is developed. It possesses bitter tonic properties, with more or less sedative ones. The preparations in use here—the tincture and syrup—form agreeably flavoured medicines, which are used to palliate the cough in phthisis and bronchitis, in palpitation of the heart, and debility, particularly of the digestive organs.—L. i./80,97.

Syrupus Pruni Virginianæ, B.P.C.

Dose.—½ to 2 drachms.

Wild Cherry Bark, in No. 20 powder	3 ounces.
Sugar, in coarse powder	15 ounces.
Glycerine	1¼ ounces.
Distilled Water	*q.s.* to 1 pint.

Moisten the powder with water and macerate for 24 hours in a closed vessel, then percolate, adding more water until 9 ounces of liquid are obtained, in which dissolve the sugar without heat. Add the glycerine, strain, and pour water over the strainer, *q.s.* to 1 pint.

Tinctura Pruni Virginianæ, B.P.C.

Dose.—20 to 60 minims.

Wild Cherry Bark, in powder	8 ounces.
Distilled Water	15 ounces.

Macerate 24 hours in a closed vessel, and add

Rectified Spirit	25 ounces.

Macerate 7 days more, express and filter, adding proof spirit *q.s.* to produce 2 pints.

Prunin.—*Syn.* CERASIN. *Dose.*—1 to 5 grains.

Is prepared by evaporating the tincture and powdering the extract. It is pale brown in colour, and has a characteristic odour.

PULSATILLA.

Pulsatilla.

Pulsatilla nigricans, Störck, or *Anemone pratensis*, *L.* and *Pulsatilla vulgaris*, Mill, or *A. Pulsatilla*, *L.* (these two plants are by some botanists considered varieties of one species), pasque flower, meadow anemone or wind-flower.

The flowering herb imported principally from Germany.

Anemonin. Pulsatilla Camphor.

Dose.—$\frac{1}{60}$ to $\frac{1}{12}$ grain or more, well triturated with sugar of milk in a pill.

In neutral white volatile prismatic crystals, easily crumbled, sparingly soluble in water or ether, more soluble in alcohol, chloroform, and hydrochloric acid. Almost tasteless, but if heated is acrid and irritating. Obtained from *P. nigricans* and other species of anemone. It is poisonous—5 to 10 grains caused death of rabbits. Has been given for dysmenorrhœa and epididymitis. —Pr. xxi.377. Chemical properties.—P.J. 1892,1005.

Anemonin lessens the number of respirations and cardiac contractions in frogs, cutaneous sensibility and excitability of the motor nerves is preserved, but muscular irritability is lowered. The heart beats after respiratory movements cease.—L. ii./82,116.

Is not very poisonous, 15 grains dose taken without harm.—Th. Gaz. 1887,704,770.

It irritates, then paralyzes, the respiratory centre, and diminishes cardiac activity and voluntary movements by acting on the spinal nerve centres. Useful in bronchitis, convulsive cough, and asthma, in doses of 0·05 to 0·1 gramme (¾ to 1½ grains) daily, taken at twice.—M.P.C. ii./86,113, *ex* L'Union Médicale.

Anemonin, the best analgesic for most painful affections of uterus, in dose of ⅙ grain.—Th. Gaz. 1890, 475.

Tinctura Pulsatillæ.

From fresh plant in an equivalent quantity to 1 of dried in 10 of proof spirit.

Dose.—1 to 5 minims, or more; for amenorrhœa or dysmenorrhœa, a minim every hour or two hours, a day or two before periods.

Pulsatilla paralyzes the medulla oblongata and spinal cord, and excites irritation of the digestive tract and the kidneys.—Clarus in Binz.

The tincture is praised as a remedy for spasmodic dysmenorrhœa and amenorrhœa.—Pr. xxi.377. Also combined with caulophyllin.—L. i./89,1132.

It is also used in catarrh of the air-passages with spasmodic cough, and some rheumatic affections.

1 to 10 of water is used as a lotion to the mucous membrane where there is a discharge of a muco-purulent character, especially useful in leucorrhœa.—Phillips, Mat. Med. and Ther.

Use in eclampsia and sympathetic neuroses; and other therapeutic uses in dose of tincture of 5 to 30 minims. —Pr. xxix.32.

Recommended in treatment of inflammation of the testes, cord, and epididymis.—B.M.J. i./86,98; Th. Gaz. April, 1889,246.

PYRIDINA.

Pyridine.

Dose.—5 to 10, increased to 25 minims daily.

A base, forming salts with acids, obtained from bone-oil and many organic substances by dry distillation and subsequent purification. It is a colourless liquid with a persistent empyreumatic odour, miscible with water, alcohol, ether, and oils; boils at 243° F.; is contained in and combined with nicotine in the fumes of tobacco, and M. Sée thinks it is probably the relieving agent of various cigarettes and powders smoked or burnt for asthma. It relieves dyspnœa of asthma. A drachm of it is placed on a plate in a small room, in which the patient remains from 20 to 30 minutes three times a day. The respiration becomes easy, and, after a few sittings, the disease disappears more or less completely. In frogs and guinea-pigs, the irritability of the respiratory centre is lessened.—M.R. 1885,344.

Note on the relief of asthma.—L. ii./86,744.

Has been used as a heart stimulant; valuable in angina pectoris and cardiac failure, in doses as above.—L. ii./88,438.

QUEBRACHO CORTEX.

White Quebracho Bark.

The bark of *Aspidosperma Quebracho*, imported from the Argentine Republic, is met with in pieces about ¼ inch thick, with a fibrous cinnamon brown-coloured interior, breaking with a short fracture, and having a warty, reddish ochre-coloured suberous exterior. It has a bitter, slightly aromatic taste. It contains the alkaloid Aspidospermine and other principles.—P.J. 1882,781.

Investigations by Hesse, Harnack, and Hoffmann have shown that Quebracho contains six alkaloids, and that commercial Aspidospermine is a mixture of these, viz.:—Aspidospermine, Quebrachine, Quebrachamine, Aspidospermatine, Hypoquebrachine, and Aspidosamine (amorphous). Of these the bark yields most Aspidospermine, and it is most used.

Aspidospermine Sulphate (Froude), in dose of $\frac{1}{64}$ to $\frac{1}{32}$ grain hypodermically appears to lower temperature in typhoid where quinine fails; salts of Aspidospermatine are found to be more, and those of hypoquebrachine and quebrachine less, powerful antipyretics.—L. ii./84,1018.

Seems to assist the blood in absorbing more oxygen, relieves dyspnœa from various causes.—Th. Gaz. Jan. 1888,14.

Crude Aspidospermine Sulphate is deliquescent and unstable; it is much more soluble in water than the alkaloid. Quebracho and its preparations have been employed as remedies in certain forms of asthma and to relieve the dyspnœa of this disease.—B.M.J. i./80,167; Pr. xxxiii.54.

Tinctura Quebracho.

Is prepared 1 in 5 of proof spirit.—P.J. 1879,485.

Dose.—$\frac{1}{2}$ to 1 drachm or more.

QUINETUM.

Dose.—1 to 5 grains or more.

The mixed alkaloids, in amorphous greyish white powder, obtained from red cinchona bark, *Cinchona succirubra*, slightly soluble in water, but readily and perfectly dissolves in it with the aid of a dilute acid. It consists principally of cinchonidine (50 to 70 per cent.) with some quinine, cinchonine, &c.; is cheaper than quinine.

Quineti Sulphas, Quinetum Sulphate.

Dose.—1 to 5 grains or more.

The crystallizable sulphates of the above, in acicular crystals resembling quinine, slightly soluble in water, but readily dissolves with the aid of an acid. May be made into pills with glycerine of tragacanth, or given in aqueous solution with acid and tincture of orange-peel. It is not nauseously bitter.

As a tonic, 1 to 3 grains; in ague 10 to 15 grains; no unpleasant effects during its administration.—M.T.G. ii./76,474.

In ague does not produce deafness; is even more powerful than quinine.—Pr. xx.83.

In ague 10 to 15 grain doses act as well as quinine.—B.M.J. i./79,800; Pr. xxii.452.

QUINIDINÆ SULPHAS.

Quinidine Sulphate.—*Syn.* CONQUININE, or CONCHININ SULPHATE (Hesse).

Dose.—1 to 20 grains.

Quinidine is an alkaloid obtained from cinchona, principally from Pitayo and Cuprea barks. The sulphate is in white acicular crystals very like sulphate of quinine. Soluble in 350 of water, 1 in 32 of absolute alcohol, rendered more soluble in water by the addition of acid—a minim or more of diluted sulphuric acid to a grain—may be dispensed thus, or 5 parts of the sulphate with one of glycerine of tragacanth in pills. Its solution is fluorescent, but dextrogyrate, and, like quinine, with which it is isomeric, its solution produces an emerald-green colour with chlorine water and ammonia. Quinidine salts are powerful antiperiodics, equal to those of quinine, to which they stand next in market value. Quinidine Sulphate is suitable for administration to children, being less bitter than the other cinchona alkaloids.

In typhoid and ague, doses of 15 to 30 grains with diluted sulphuric acid and peppermint water were attended by good results.—B.M.J. i./79,937.

QUININA.

Quinine.

Dose.—1 to 4 grains or more (if anhydrous, 3 parts are equal to 4 of sulphate).

The most valued alkaloid obtained from cinchona barks,—is a very bitter, white, or, if well dried, greyish white amorphous powder, slightly soluble in water, soluble in ether, alcohol, chloroform, and dilute acids. Soluble also in aqueous ammonia. One grain dissolved in a drachm of aromatic spirit of ammonia forms an agreeable dose. Its solution in diluted sulphuric acid is fluorescent, lævogyrate, and gives, with solution of chlorine and ammonia afterwards added, a characteristic emerald-green colour due to thalleioquin.

Oleatum Quininæ.—See p. 294.

Oleum Morrhuæ cum Quinina.—See p. 294.

Quininæ Arsenias, Arseniate of Quinine.

Dose.—⅛ to ⅓ grain, in a pill.

Is in small white acicular crystals, sparingly soluble in cold water. Medicinally, its arsenic is about one-tenth that of arsenious acid. It is an antiperiodic, given in chronic malarial fevers. Contains about 29 per cent. of arsenic acid, and 67 per cent. of quinine.

Quininæ Chloras, Quinine Chlorate.

Dose.—1 to 5 grains or more, in pill with glycerine of tragacanth.

In slender white needles, slightly soluble in water. It explodes when heated.

Quininæ Citras, Quinine Citrate.

Dose.—1 to 5 grains or more, in pill with glycerine of tragacanth, or slightly powdered and suspended in water, in which this salt is sparingly soluble—1 in 900—has, therefore, little taste in this form. It is in acicular crystals like the sulphate.

Ferri et Quininæ Citras (*Off.*).

Dose.—5 to 10 grains in aqueous solution, or in pills with simple syrup or mucilage of acacia (not in excess, as, unless made very hard, they lose shape). This much-used preparation contains 16 per cent. of quinine, is in greenish golden scales, slightly deliquescent and very soluble in water. It has an agreeable bitter, chalybeate taste.

Granular Effervescent Citrate of Iron and Quinine.

Dose.—60 grains = 3 grains of above salt.

Syrupus Ferri et Quininæ Citratis.

Dose.—1 drachm or more.

Is generally prepared by dissolving 3 grains Citrate of Iron and Quinine in a drachm of syrup of orange-peel.

Ferri, Quininæ et Strychninæ Citras (p. 377) is the former preparation, with 1 per cent. of strychnine added.

Quininæ Fluoridum.—See p. 19.

Quininæ Hydrobromas, Quinine Hydrobromate.

Dose.—1 to 5 grains or more.

In white acicular crystals, smaller than the sulphate, and much more soluble in water (1 in 24). Quinine is given with an excess of hydrobromic acid to lessen the cinchonism sometimes caused by large doses.—B.M.J. ii./76,42. Use as an antipyretic. — Pr. xxi.443. In acute rheumatism.—Pr. xli.58.

Quininæ Hydrobromas Acida, Quinine Acid Hydrobromate.

Dose.—½ to 2 grains hypodermically.

In yellowish large rectangular prisms or masses of crystals, or in powder. A very soluble salt of quinine, dissolves 1 in 6 of water, richer in the alkaloid than the sulphate, is therefore well adapted for hypodermic injection. It is entirely unirritating.—M.R. 1880,443.

The best salt for hypodermic injection; the bromine element tends to correct quinism.—Th. Gaz. 1889,64.

Injectio Quininæ Hydrobromatis Acidæ Hypodermica. 1 grain in 6 minims.

Dose.—3 to 12 minims. Useful in ague where quinine cannot be borne by the stomach; a very much less dose of this will act than that required to be given by the mouth.

Hypodermic Lamels of **Quinine** contain ½ grain.

Quininæ Hydrochloras, Quinine Hydrochlorate (*Off.*).—*Syn.* MURIATE OF QUININE.

Dose.—1 to 10 grains.

In acicular white crystals generally larger than the sulphate, soluble 1 in 24 of water, 1 in 3 of spirit.

Very soluble salt of Quinine, and richer in alkaloid than the sulphate; contains 83 per cent. against 74½ per cent. in the sulphate. Now used for making Tincture of Quinine and as an antiseptic.—P.J. 1878,407.

Is a powerful germicide; 1 in 800 prevented the development of any germs in a liquid suitable for their growth.—B.M.J. ii./81,408.

Quininæ Hydrochloras Acida, Dihydrochlo- of Quinine.

Dose.—½ to 2 grains, hypodermically.

In white or yellowish white crystalline crusts very soluble in water. 1 grain in 6 minims is suitable for hypodermic injection. Note on composition of, P.J. 1892,580.

Ferri et Quininæ Chloridum, Chloride of Iron and Quinine.

A reddish-brown scale preparation prepared by dissolving one molecule of quinine in one of perchloride of iron in watery solution. Is hygroscopic and has a bitter styptic taste. A concentrated solution is hæmostatic and non-caustic, specially useful in epistaxis. Internally one grain every hour or two in uterine and pulmonary hæmorrhage.—P.J.1891,877.

Quininæ Iodas, Iodate of Quinine.

Dose.—1 to 5 grains.

Is in moderately soluble white silky needles.

Quininæ Iodidum, Iodide of Quinine.

Syn. QUININÆ HYDRIODAS, Quinine Hydriodate, QUININÆ HYDRIODIDUM, Quinine Hydriodide.

Dose.—1 to 5 grains.

Is in minute pale-primrose coloured crystals, but slightly soluble in water.

Quininæ Iodidum Acidum, Acid Iodide of Quinine.

Syn. QUININÆ HYDRIODAS ACIDA, Quinine Acid Hydriodate, QUININÆ HYDRIODIDUM ACIDUM, Quinine Acid Hydriodide.

Dose.—1 to 4 grains.

Is in golden acicular crystals, freely soluble in water. must be kept from the light. A saturated solution (about 2 grains in an ounce) in syrup of iodide of iron forms

Syrupus Ferri et Quininæ Iodidi.

Dose.—1 drachm.

Quininæ Lactas, Lactate of Quinine.

Dose.—1 to 5 grains, or more.

In commerce is found as a granular white amorphous powder, soluble 1 in 10 of water; said to be easy of digestion.

Is a very soluble salt of quinine and suitable for hypodermic injection.—L. ii./85,310; Th. Gaz.1889,285.

For gonorrhœa, 1 per cent. solution forms an excellent injection.—Pr. xxxiv.132.

Quininæ Phosphas, Phosphate of Quinine.

Dose.—1 to 6 grains. Is in acicular crystals like the sulphate, but harder and denser.

Quininæ Salicylas, Quinine Salicylate.

Dose.—2 to 6 grains.

In white silky flexible acicular crystals, sparingly soluble in water, about 1 in 900, and the addition of acids does not help its solubility. Should be administered suspended in water, or in cachets or pills with glycerine of tragacanth and a little acacia as excipients. In 3-grain pills; recommended for diarrhœa and neuralgia.

Useful in rheumatic gout, 3 grains every 6 hours.—L. i./80,540,582.

Quininæ Sulphas, Sulphate of Quinine (*Off.*).

Syn. QUININE SULPHATE; DISULPHATE OF QUININE (formerly so termed, often now called simply Quinine, as it is the salt most largely manufactured and most cheaply and conveniently made.)

Dose.—1 to 5 grains as a tonic; 5 to 15 grains or more as an anti-periodic.

In slightly flexible acicular snow-white crystals, with a pure, intensely bitter taste. Soluble 1 in 740 of cold water, 1 in about 100 of rectified spirit, 1 in 40 of glycerine, is precipitated from solution by tannic acid, alkalies and their carbonates, but redissolved by an excess of aqueous ammonia. It is generally prescribed in solution or pills. To render ordinary doses of it soluble in water, a dilute mineral acid in the proportion of at least one minim to each grain should be ordered, the sulphate should be moistened with a little water before the addition of the acid, particularly if this be sulphuric acid, the soluble acid salt formed will thus be held in solution, and this may be diluted *ad libitum*. Tincture of orange-peel agreeably harmonizes with and covers the bitterness of Quinine. Although incompatible with alkalies, it is often ordered in conjunction with aromatic spirit or carbonate of ammonia, which precipitate the alkaloid as a sticky mass on the sides of the bottle. To avoid this separation, some mucilage of acacia should be prescribed in the mixture, which prevents the aggregation of the alkaloid and holds it suspended in the liquid. In cases of fever, large doses are thought to be more efficacious with the sulphate of quinine not dissolved. It may be given in wafer cachets, or diffused in water if lightly powdered so as to break the crystals, but not to make them cake and adhere. It can be conveniently formed into pills by adding to 4 parts 1 of glycerine of tragacanth, carefully avoiding excess of the latter, or strong sulphuric acid in the proportion of one drop to five grains, makes a good pill; confection of hips is often used as an excipient, 3 parts require 1 or more of confection. The uses of Quinine internally are well known. Its solution possesses powerful antiseptic properties. Three grains to an ounce as an eye lotion has a specific action in diphtheritic ophthalmia.—L. i./80,125; L. i./82,6; L. ii./83,12.

Quinine, locally applied, has an immediate and powerful influence in arresting suppurative process in hypopyon.—L.i./92,15.

Testing for purity of.— P.J. 1887,647,235.

Catarrh relieved by pills of quinine, atropine, and arsenic.—Pr. xxxviii. 179.—See p. 72.

Eruptions produced by Quinine.—L. ii./88,1267; B.M.J. i./89,608.

The production of amaurosis by quinine.—Pr. xlv. 126; B.M.J.E. i./91, 78.

Quinine a cardiac stimulant in typhoid, phthisis, and pneumonia.—L.i./91, 930; P.J.1891,980.

Collunarium Quininæ, Quinine Nasal Douche, T.H.

Sulphate of Quinine ½ grain, Water 1 ounce.

Dissolve by the aid of gentle heat. Used in hay-fever, a little is placed in the palm of the hand and drawn up through the nose. If a stronger solution be required the Acid Sulphate or Hydrochlorate of Quinine should be used; an excess of acid for this purpose should be avoided.

Perles of Sulphate of Quinine (Pelletier's).

Contain 10 centigrammes (1½ grains) in each.

Syrupus Ferri, Quininæ et Strychninæ Phosphatum.—See Ferri Phosphas, p. 202.

Tinctura Quininæ (*Off.*). *Dose.*—½ to 2 drachms.

Hydrochlorate of Quinine 1 grain is dissolved in a drachm of tincture of orange peel, and after three days filtered. A very agreeable form of taking small doses of Quinine. As suggested by the writer, Hydrochlorate of Quinine is now used in place of Sulphate.—P.J. 1878,407.

Tinctura Quininæ Ammoniata (*Off.*).

Dose.—½ to 2 drachms.

Sulphate of Quinine 160 grains, Proof Spirit 17½ ounces. Mix, and add Solution of Ammonia 2½ ounces. The Quinine dissolves immediately. The trace of Cinchonidine precipitated afterwards, if present as impurity, is better filtered out after standing three or four days. —P.J. 1890,511. Contains one grain in a drachm. The Quinine precipitates on addition to water; mixed with an equal quantity of syrup of orange-peel, it is palatable, keeps bright, and bears dilution better. It is better kept in a dark place, else it darkens in colour.

Vinum Quininæ (*Off.*). *Dose.*—½ to 1 ounce.

Contains one grain of the sulphate with a grain and a half of citric acid dissolved in one ounce of orange wine.

It is a much more satisfactory preparation, keeps brighter, &c., if made with the Hydrochlorate of Quinine.

Warburg's Fever Tincture. A nostrum, the published formula of which shows that it is a proof spirit tincture, containing Sulphate of Quinine 1 in 50, Socotrine Aloes 1 in 40, Opium about 1 in 4,000, Rhubarb 1 in 125, Camphor 1 in 500 with several aromatics.—L. ii./75,716. As it is apt to purge as above prepared, the aloes may be omitted *if so prescribed.*

Dose.—1 to 4 drachms or more. Originally directed for Indian fever, ague, &c., half an ounce as a dose repeated in 2 or 3 hours; before giving the first dose the bowels should be freely opened, and no food recently taken. Between the two doses nothing should have been taken but a little brandy or beef-tea, and this only if the state of the patient required it.

Not to be compared with aconite in remittent fever.—Pr. xxvi.187.

Quininæ Sulphas Acida; Quinine Acid Sulphate.—*Syn.* SOLUBLE SULPHATE OF QUININE, NEUTRAL SULPHATE OF QUININE (so-called when the other sulphate was called Disulphate).

Dose.—1 to 5 grains or more.

Usually met with in large rectangular prisms or masses of crystals. Soluble 1 in 12 of cold water.

Injectio Quininæ Sulphatis Acidæ Hypodermica. Acid Sulphate of Quinine 1 grain, Water to 12 minims. Dissolve. *Dose.*—4 to 18 minims.

Quininæ Sulphocarbolas, Quinine Sulphocarbolate.

Dose.—1 to 6 grains in pill with glycerine of tragacanth. One part of Sulphate of Quinine and two parts of Absolute Phenol, liquefy and form an oily, colourless fluid. If hot aqueous solutions of the two are mixed in equivalent quantities, Sulphocarbolate of Quinine separates on cooling. This salt is met with in commerce as an amorphous white powder, soluble 1 in 680 of water, 1 in 74 of rectified spirit. The so-called Carbolate of Quinine is generally a Sulphocarbolate as found in commerce.

Quininæ Tannas, Tannate of Quinine, P.G. III.

Dose.—1 to 4 grains. An amorphous whitish insoluble powder, obtained by the decomposition of the sulphate with a solution of tannin. Being almost tasteless, is recommended for children, to be given in milk.

Quininæ Valerianas. *Dose.*—1 to 4 grains.

In white shining crystalline, odourless, rhomboidal plates, or, as more frequently met with in commerce, an amorphous white powder with a slight valerianic odour, soluble 1 in 110 of cold water; best administered in pills with glycerine of tragacanth and a little acacia as excipients; given in nervous headache and hysteria.

Quinoidine.—*Syn.* CHINOIDIN, U.S.

Dose.—1 to 5 grains or more.

The mixed amorphous alkaloids, purified from resin, obtained as a bye-product in preparing salts of cinchona alkaloids. It is a brownish-black, resinous-like substance, has a vitreous fracture, nearly insoluble in water, is dissolved by acid solutions, which deposit on dilution. Solutions either in boric or sulphuric acid are used as cheap febrifuges. The taste of these is very nauseous.

RESORCIN, P.G. III.

Dose.—5 to 15 or 30 grains.

A derivative of benzene or phenol, in white crystalline plates, larger than, but resembling, benzoic acid in appearance, melts at 230° F., and is easily volatilised. Soluble 1 in 1 of water, 2 in 1 of spirit, and 1 in 20 of olive oil. It possesses powerful antiseptic properties. A one per cent. solution prevents putrefaction in such substances as pancreas, blood, and urine, and a stronger solution will destroy the vitality of low organisms. It coagulates albumen, and has a caustic action on the skin, but a 2 per cent. solution is not irritating to it. It is an effective remedy in diphtheritic affections, and produces no injurious consequences. A 5 per cent. solution may be injected into the bladder without causing any irritation, and is useful in inflammatory affections of this organ, likewise in vesical catarrh after gonorrhœa; 5 to 10 per cent. solution is of service also in syphilitic sores and skin diseases; and a 1 per cent. solution improves the appearance of unhealthy wounds, and is useful as an eye lotion in conjunctivitis. Given internally, it has a specific action comparable to quinine, but it is apt to produce profuse perspiration, and its antipyretic action is short; it is best administered well diluted with water and flavoured with syrup of orange or glycerine.—L. ii./80,777; L. ii./81,1065; B.M.J. ii./81,944; Pr. xxvii.381; Pr. xxix.189; Pr. xxx.63. Doses of 15 grains dissolved in Castor Oil are useful in diarrhœa, and 1 grain with a drachm of Infusion of Chamomile every two hours for cholera infantum.

Glycerinum Resorcin, G.H. 1 to 4.

Plaster Mulls are spread containing 15 grammes of Resorcin in $\frac{1}{5}$ square metre.—See p. 421.

Use as an application in cancer.—L. ii./82,1033.

Whooping-cough, 30 successful cases treated by spray of resorcin every two hours.—B.M.J. i./84,695; and as a pigment to the larynx 1 per cent. solution used.—Ed.M.J. 1884,61; Th. Gaz. 1890,270.

For impetiginous eczema, 1 or 2 to 10 of vaseline.—Ed.M.J. 1884,66. For lupus.—B.M.J. i./86,956.

In diphtheria, 50 per cent. solution as a pigment, and internally 1 to 4 grammes daily.—L. ii./85,452; B.M.J. ii./88,980.

Useful as a topical application in diphtheria, also internally in hectic with night sweats; these were unaffected by quinine alone, but under resorcin 2 grains and quinine

3 to 5 grain doses an improvement rapidly took place.—L. ii./85,558.

In psoriasis, a 20 per cent. ointment stains little, does not smell badly, nor injure the general health, but causes some pain.—L. ii./85,577.

Local application to condylomata and mucous patches.—L. i./87,41.

Sea sickness relieved by its internal use.—L. i./88, 39; ii./91,505; Th. Gaz. 1888,190.

Gonorrhœa, good effects from a 2 to 3 per cent. injection.—Nouveaux Remèdes, Dec. 1, 1885.

Notes on its value in gastric and cutaneous diseases.—L. i./88,570; ii./91,505.

Pigment of 10 per cent. relieves irritation of tubercle of larynx.—L. i./88,39.

Eczema of eyelids; cold cream with 2 per cent. of resorcin useful.—B.M.J. ii./88,1368. Chronic eczema, Th. Gaz. 1888,370.

Cutaneous epithelioma treated successfully by 30 per cent. ointment with vaseline.—B.M.J. ii./90,96; Y.B. 1891,203.

Resorcin prevents cocaine poisoning; value of both drugs enhanced by combination.—B.M.J. ii./90,506. The combination especially useful in diseases of the ear—M.C. Dec. 1890,256.

Unusually good results from resorcin plaster in rodent ulcer.—B.M.J.E. i./91,102.

An 80 per cent. solution useful as an application to ulcers in laryngeal phthisis.—L. ii./91,1185.

Thio-Resorcin.

A combination of resorcin and sulphur, in yellowish white, inodorous, and non-poisonous powder, insoluble in water, slightly soluble in ether and alcohol. Has been used as a substitute for iodoform, as dusting powder and 10 to 20 per cent. ointment.—L. i./89,1157; P.J. 1889,704; Y.B. 1890,306.

Di-iodo-thio-resorcin, a brown amorphous powder, insoluble in water, soluble in alcohol; is also recommended for similar purposes.

RHAMNI FRANGULÆ CORTEX.

Frangula Bark (*Off.*).—*Syn.* BLACK ALDER; CORTEX FRANGULÆ.

This bark is imported principally from Holland in quills about half a line thick, with a warty, greyish brown exterior; contains the crystalline principle Emodin, this is also found in rhubarb root. The bark should not be employed until it has been kept at least one year, else, it is stated, it produces sickness as well as purging. It possesses tonic, laxative properties, does not cause griping, and does not need the dose increased if habitually taken. It is especially useful in cases of hæmorrhoids.—P.J. 1871,152; P.J.1874, 889.

Extractum Rhamni Frangulæ (*Off.*).

Dose.—15 to 60 grains. Is a proof spirit extract.

Extractum Rhamni Frangulæ Liquidum. (*Off.*). *Dose.*—1 to 4 drachms.

The bark is exhausted by boiling with successive quantities of water, the decoctions concentrated, and spirit added, so that one ounce = one ounce of bark.

Trochisci Rhamni Frangulæ are sold under the name of "Aperient Fruit Lozenges."

Dose for an adult.—1 to 1½ or 2 lozenges.

RHAMNI PURSHIANI CORTEX.

Sacred Bark (*Off.*).—*Syn.* CASCARA SAGRADA.

The dried bark of *Rhamnus Purshianus.*

Dose.—3 to 15 grains in cachets.

Chemical notes on.—P.J. 1888,804.

Cascara Capsules represent half a drachm of Liquid Extract.

Dose.—1, 2, or more. Some contain, in addition, 1 grain Euonymin in each. *Dose*, 1 or 2 at bedtime.

Elixir Cascara Sagrada, B.P.C.

Tincture of Fresh Orange Peel 2 ounces, Rectified Spirit 1 ounce, Cinnamon Water 8 ounces, Syrup 6 ounces, Liquid Extract of Cascara Sagrada 8 ounces.

Dose.—15 minims to 2 drachms. Very small doses three times a day are pleasantly laxative. The taste is agreeably disguised.

Extractum Cascaræ Sagradæ (*Off.*).

Dose.—2 to 8 grains in pill.—Is a weak spirituous extract (*Cascara Sagrada* should be indeclinable).

Extractum Cascaræ Sagradæ Liquidum (*Off.*).

Dose.—10 to 60 minims. Is prepared as Extractum Rhamni Frangulæ Liquidum. By the B.P. process of concentrating repeated decoctions, the evaporation of this preparation is too much prolonged; it is better percolated with a weak spiritnous menstruum; the later percolate being concentrated and added to that first passed. It may be made miscible with water by the addition of half its volume of sal volatile.—P.J. 1891,250; 1892,827.

Pastils of Cascara each contain 2½ grains of Extract, and are coated with Tolu. *Dose.*—1 or 2.

Syrupus Cascara Sagrada, B.P.C.

Liquid Extract of Cascara Sagrada 4 ounces, Liquid Extract of Liquorice 3 ounces, Carminative Tincture 2 drachms, Syrup sufficient to produce one pint. Mix.

Dose.—As an aperient, 1 to 4 drachms; or for children, one-half to a teaspoonful, according to age. As a laxative, very small doses should be taken three times a day.

Tinctura Cascara Sagrada.

Percolate 1 to 5 of S.V.T. *Laxative dose.*—10 to 60 minims.

Tinctura Laxativa.

Dose.—20 to 60 minims.

Liquid Extract of Cascara Sagrada, Aromatic Spirit of Ammonia, Spirit of Chloroform, Tincture of Belladonna, Tincture of Nux Vomica, of each equal parts. This is an agreeable and elegant form of administering cascara, being perfectly miscible with water.

In obstinate constipation, 20 drops of the liquid extract, 3 times a day, gradually lessened, establishes a habit of regularity; for children smaller doses give good results.—B.M.J. i./83,456; L. i./92,519.

Acts as a vegetable bitter, increases peristalsis, empties rectum, and is useful for internal piles.—Edin. Med. Jour. 1884,753,845.

Is certainly a good laxative in habitual constipation.—B.M.J. i./84,556.

Cascara Amarga, Picramnia Bark.

A fluid extract of this is said to be tonic, alterative, and antisyphilitic.—Th. Gaz. 1890,451.

RHUS TOXICODENDRON.

Poison Oak.—*Syn.* POISON IVY LEAVES.

Tinctura Rhois. *Dose.*—2 to 5 or 15 minims.

Imported from North America, prepared from fresh leaves 1, alcohol 2. A German formula is:—Expressed juice 5, alcohol 6. The emanations of the living plant produce an eczematous eruption of the skin. It has been used for rheumatism in chronic cutaneous affections, paraplegia, and incontinence of urine from atony of the bladder.—Th. Gaz. 1888,853; 1889,676; 1890,63. Also for hæmorrhoids.—B.M.J.E. ii./90,48; Ed. M.J. 1890,553.

Emplastrum Rhois in rubber combination, 1 yard rolls, is an imported preparation.

The bark of the root of **Rhus Aromatica, Sweet Sumach,** is said to be pungent, aromatic, astringent, stimulant, diuretic, and tonic; useful in enuresis and atonic diarrhœa.—Th. Gaz. 1890,471. The fruit and bark of the common sumach, *Rhus glabra,* are also used as astringents.

Rubidium Ammonium Bromide.—See p. 54.

RUMICIN.

Dose.—1 to 4 grains, in a pill with glycerine of tragacanth.

The dried extract of the root of *Rumex crispus*—yellow dock. Possesses astringent, tonic, and anti-scorbutic properties, and is given in scrofulous skin diseases and as a depurative in congested liver and dyspepsia. Yellow dock root contains Chrysarobin.

Tinctura Rumicis. *Dose.*—1 to 10 minims.

One of yellow dock root in 10 of proof spirit.

SACCHARIN.

Glusidum. (*Off.*)—*Syn.* BENZOYL-SULPHONIC-IMIDE.

Dose.—½ to 2 grains, or more.

A derivative of toluene, obtained from coal tar, in white, intensely sweet, and minutely crystalline powder, rather light and flocculent. It is soluble 1 in 500 of water, in rectified spirit 1 in 35, in proof spirit 1 in 80, in ether 1 in 100, in chloroform 1 in 50, and in glycerine about 1 in 50. It is but slightly soluble in oils and fats, — olive, or cod liver oil does not dissolve one-quarter per cent. of it. Its aqueous solution has an acid reaction; it forms crystalline sweet salts with alkaloids and metallic bases. Solutions of alkalies and their carbonates dissolve it, the latter evolving carbonic anhydride. When fused with potash or soda it is partially converted into salicylic acid, forming corresponding salicylates. It dissolves in concentrated sulphuric acid, forming a colourless solution, which remains so, even when heated; dissolved in caustic potash solution it should not reduce Fehling's solution.

Saccharin (about 2 grains of the soluble preparation, or 40 minims of the elixir, in an 8-ounce mixture) disguises the taste of nauseous drugs, such as salicin, salicylate of sodium, cascara, nux vomica, and strychnine, and is used to flavour gluten and cocoanut biscuits for diabetic patients.—B.M.J. ii./87,732; M.P.C. ii./87, 342; L. i./89,246.

Saccharin is now acknowledged to be not chemically pure benzoic sulphinide, but to contain only about 60 per cent. of this, standardised to a sweetening power of 300 times that of sugar.—P.J. 1889,501, *ex* Chemiker Zeitung.

Saccharinum Solubile, Soluble Saccharin, contains about 90 per cent. of Saccharin in combination with soda. In yellowish-white granular, micro-crystalline masses, easily soluble in water, and therefore convenient for flavouring purposes.

Dose.—$\frac{1}{2}$ to 2 grains or more.

Elixir Glusidi, B.P.C.—*Syn.* **Elixir of Saccharin.** Saccharin 24 grains, Bicarbonate of Sodium 12 grains, Rectified Spirit 1 drachm, Distilled Water 7 drachms. Mix, dissolve, and filter. 20 minims contain 1 grain of Saccharin, sufficient to flavour a 4-ounce mixture.—P.J. 1887,436.

Tabellæ Saccharini, Saccharin Tablets. Each contains $\frac{1}{2}$ grain of Saccharin, combined with bicarbonate of sodium.

Saccharin is a harmless drug, valuable as a substitute for sugar in cases of diabetes.—L. i./87,644; L. ii./87, 834. Editorial summary.—B.M.J. ii./87,838.

Sweet taste may become persistent.—B.M.J. i./88,296.

May cause unpleasant symptoms of dyspepsia if given to excess in diabetes.—L. i./88,903.

Given internally to stop decomposition of urine in chronic cystitis.—B.M.J. i./88,1222; ii./89,1235; L. i./88,1195; Pr. xli.131.

Quite innocuous, even in large quantities, and for a long period.—L. ii./88,958; P.J. 1888,426.

Experiments have shown that it does not alter the assimilation of fat.—L. i./90,670.

Salicin.—See p. 30. **Salol.**—See p. 30.

SANGUINARIN.

Dose.—¼ to 1 grain, in a pill with glycerine of tragacanth.

The powdered resinoid of a coffee-brown colour obtained from blood-root—*Sanguinaria canadensis.* In small doses, stimulant and tonic; in larger doses sedative, reducing the pulse, and increasing expectoration; in still larger doses, emetic.

On dog, stimulates secretion of bile, which is more watery. Is a decided and powerful cholagogue, overdoses are emetic.—B.M.J. Rep. 1878,65; Pr. xxiii.411.

It is undoubtedly emmenagogue and useful in functional amenorrhœa, also useful in dyspepsia and gastro-intestinal catarrh.—B.

SANTONINUM.

Santonin (*Off.*).

Dose.—2 to 6 grains in sugar or milk.

A neutral crystalline principle obtained from Santonica or Cina, the flower-heads of *Artemisia maritima var. Stechmanniana* (*A. pauciflora*, Weber). Santonin is insoluble in water, slightly soluble in alcohol and oils (1 in 100 of castor oil). Also soluble in caustic soda solution; exposed to light it turns yellow. Poisonous properties have been ascribed to it, probably due to impurities. It is a useful anthelmintic for round and thread worms. It colours the urine orange, and in too large a dose may cause objects to appear of a green or yellow colour, or as seen through a yellow medium, obliterating the whole of the violet and the ulterior end of the blue bands in the spectrum.—*Nature*, 1889,408.

As an anthelmintic is most active administered in an oily solution.—L. i./83,971.

Haustus Santonini et Olei Ricini.

Santonin in powder ...	4 grains.
Castor Oil	3 drachms.
Mix and emulsify with	
Mucilage of Acacia ...	4 drachms.
Syrup	1 drachm.
Peppermint Water to ...	1½ ounces.

Taken fasting in the morning makes a dose for a child of 6 to 12 years.

Trochisci Santonini (*Off.*).

These lozenges contain 1 grain in each, with a plain sugar basis; one every night for a few nights should then be followed by an early morning aperient.

Suppositorium Santonini.

Contains 3 grains, or more if ordered. Should be administered every 2nd or 3rd night, for 3 times. Is an efficient anthelmintic, especially for thread worms, which often infest the anus of children, causing them to have disturbed sleep.

Inoperative against tape worm; 2 to 4 grains according to age, with one or more teaspoonfuls of castor oil early in the morning, repeated two or three mornings, seldom fails for thread worms.—R.

Peculiar effects on the eyes and sight; does good in iritis, 30 grains distributed into 10 doses, in 5 days.—M.T.G. ii./60,219.

Convulsions in a child from 1¼ grains.—L. ii./76,443.

Rash after 5 grains in an adult.—B.M.J. ii./88,817.

Poisonous symptoms from its depressing effects on the nervous system.—B.M.J. i./79,322.

For amenorrhœa, dependent on anæmia or chlorosis, 10-grain doses were effectual.—L. ii./85,431.

Valuable in the amenorrhœa of full-blooded women, not in that of anæmic ones.—L. i./86,61,132,286.

Three grains in child of 3½ years caused vomiting, green perception of all colours, and incontinence of urine, which was of an intense saffron colour.—B.M.J. i./91,1224; Pr. xlvii. 129.

Effect on sight and hearing.—B.M.J. ii./91,726.

Ascarides, producing anæmia, expelled by santonin; small doses recommended.—B.M.J.E. i./92,52.

Atropinæ Santonas.—See p. 70.

Sodii Santonas, Santonate of Sodium.

Dose.—5 to 10 grains.

In large colourless rhomboidal crystals, obtained by combination of Santonin with Caustic Soda, soluble 1 in 100 of water, freely soluble in hot glycerine, but separates on cooling; slightly soluble in syrup, has a mawkish, not disagreeable taste; may be administered in aqueous solution flavoured with syrup of orange, or in warm milk.

Santoninoxim.

A derivative of santonin produced by the action of hydroxylamine in an alkaline solution. Is less absorbable, and non-toxic, but equally active when administered in double or triple doses.—P.J. 1889,1049; Th. Gaz. 1890,573.

It kills the worm, whereas santonin only paralyses it; both require to be followed by a purgative.—L. i./91,561.

SODIUM.

By experiments on the ventricle of the frog's heart it has been proved that, whilst Potassium Salts are very poisonous, Sodium Salts can scarcely be made to kill. By Potassium Salts excitability and contractility are both powerfully affected; by Ammonium Salts excitability practically unaffected, contractility powerfully affected; a wide gap separates Sodium Salts from the last, by these excitability is slightly affected, but contractility suffers chiefly; Potassium Salts, by these experiments, are 14 or 15 times as poisonous as Sodium Salts. The therapeutic importance of these results is obvious. Bromide, iodide, and chlorate of potassium are largely given as medicines; the above would suggest the use of the Sodium Salts in preference. Clinical evidence tends to prove the same by their action on the entire organism, as may be judged by the favour shown of late to the latter salts, especially to Bromide of Sodium.—L. i./82,1033; ii./82,736; B.M.J. i./82,942; Pr. xxvii.7.

Saline Solution, Normal.

A solution of chloride of sodium (¾ per cent.), or common salt 60 grains to the pint of boiled water is generally used for intravenous injection in hæmorrhage, uterine flooding, or collapse. The solution should be at a temperature of about 100° F., and injected into any convenient vein, at the rate of about a pint in ten minutes. Jennings' formula is Chloride of

Sodium 50 grains, Chloride of Potassium 3 grains, Sulphate of Sodium $2\frac{1}{2}$ grains, Carbonate of Sodium $2\frac{1}{3}$ grains, Phosphate of Sodium 2 grains, to a pint of water (this solution should preferably be sterilized), and when reduced to 100° F., 2 drachms Absolute Alcohol added.—L. ii./91,682,747,810; i./92,913,1289,1357; B.M.J. ii./91,1150.

Sodii Arsenias.—See p. 68.

Sodii Benzoas.—See Acidum Benzoicum, p. 2.

Sodii Bromidum (*Off.*). *Dose.*—10 to 30 grains.

A slightly deliquescent granular white powder, tasting like common salt; soluble 8 in 9 of water. The anhydrous salt only should be used medicinally, it can be crystallized containing 26 per cent. of water. If therapeutically as active as bromide of potassium, Bromide of Sodium is preferable, from its weaker action on the heart.—Pr. xxviii.7; L. ii./82,736; Pr. xxxi. 224, *ex* Boston Med. and Surg. Journ. cviii. 438.

Use in epilepsy with cardiac complications.—Pr. xxii.81.

A mixture of Bromides in the proportion of bromide of potassium 2, bromide of sodium 2, and bromide of ammonium 1, is said to have a better action than either salt alone.—Erlenmeyer in Brunton.

Use in anæmia following lung disease.—L. i./92,192.

Suggested in narcotic poisoning.—L. i./92,291.

A course of sodium bromide the best means of overcoming morphine habit. Initial dose 30, increased to 100 or 120 grains at intervals of 12 hours. Effects noticed about sixth day, when morphine, which has been gradually lessened each day, should be discontinued.—Th. Gaz. 1890,599.

Elepizone.—A nostrum sold under this name contains approximately bromide of sodium 30 grains, bromide of ammonium 30 grains, bromide of potassium 20 grains, tincture of nux vomica 15 minims, with caramel *q.s.* to 1 ounce of wintergreen water. *Dose.*—1 drachm 4 times a day.

Sodii Chloras. *Dose.*—10 to 30 grains.

In large regular modified tetrahedric crystals, colourless, and has a mawkish, not disagreeable, saline taste, soluble 1 in less than 2 parts of water, and 1 in 34 of rectified spirit. It fuses and deflagrates when exposed to a red heat. For many purposes for which chlorate of potassium is used, this salt is to be preferred. For stomatitis, with ulceration along the edges of the gums, the evidence in its favour is every bit as unequivocal as it is for potassium chlorate.—L. ii./82,736.

Gargarisma Chlori, Chlorine Gargle.

Chlorate of Sodium in powder ...	10 grains.
Hydrochloric Acid	30 minims.

Mix in a pint bottle, and let the gas generate and replace the air in the bottle, then cork the bottle, and let it stand for two minutes; lastly add gradually, shaking after each addition,

Distilled Water to...	1 pint.

Useful as a detergent, and to remove follicular patches. 2 or 3 ounces in a quart jug may be used as an inhalation (cold). Chlorate of potassium may be used in place of the sodium salt, but the latter is less nauseous.

Tabellæ Sodii Chloratis et Boracis, 5 grains.
Useful in loss of voice and congested conditions of the throat.

Trochisci Sodii Chloratis (3 grains in each).

Are prepared in two forms, with black currant paste, and with plain sugar. They are much more palatable than chlorate of potassium lozenges, and are quite as beneficial as these in affections of the mouth and throat. —L. ii./82,737.

Sodii Citras. *Dose.*—10 to 60 grains.

Is in small granular crystals, resembling common salt; it is given as a cooling saline, in preference to citrate of potassium.

Sodii Ethylas, Ethylate of Sodium.

A deliquescent caustic salt in white or whitish light pulverulent crystals, prepared by dissolving metallic sodium in Ethylic Alcohol, and concentrating to crystallize.

Liquor Sodii Ethylatis (*Off.*).

Is prepared by dissolving sodium 1 in ethylic alcohol 20, keeping the latter cool by a stream of cold water; has Sp. Gr. 0·867. It may be more conveniently made by mixing and keeping cool while dissolving—

Ethylate of Sodium	1 part, in
Ethylic Alcohol	8 fluid parts.

The solution is syrupy, colourless, but darkens to a brown colour, and is recommended as the most manageable and effective of all caustics. It is used to destroy nævi and other vascular growths. It should be lightly, but effectually applied to the part by means of a pointed glass rod for 2 or 3 successive days, when a scale or scab will form, which should be left until it is loose, and the treatment continued again. It is said to cause little or no pain. No water should be allowed to touch the part under treatment. —M.T.G. ii./70,472; L. ii./78,625,654; L. i./81,168,242; P.J. 1878,479,480,485.

Lupus, several cases completely cured by it.—Pr. xxxiv.370; xli.450; B.M.J.ii./88,762; Th.Gaz. 1888,845.

Successful use in hypertrichosis, also in removing moles. Pr. xliii.1,81; Th. Gaz. 1889,648.

Pasta Londinensis, London Paste, T.H.

Caustic Soda and Unslaked Lime of each equal parts, rubbed together in a warm mortar—made into paste when required for use as a caustic. It is said to be less painful than **Vienna Paste,** which is Caustic Potash 5, Slaked Lime 6, made into a Paste with spirit.

Sodii Hippuras.—See p. 3.

Sodium Hypobromite, Solution of.

Caustic Soda	... ...	100 grammes.
Distilled Water	... ...	250 c.c.

Dissolve, cool, and keep iced while adding *guttatim.*

Bromine	... ...	25 c.c.

Mix and dissolve. This solution is used to estimate the amount of urea in a given quantity of urine. On adding the solution, nitrogen is evolved from the urea, and is measured in a suitable apparatus, in which each graduation represents 1 per cent. of urea in the urine.—Jour. Chem. Soc. 1874, 749; L.H. 228; L. ii./74,695; L. i./77,559.

It is better to keep the bromine separate, it is therefore supplied in tubes containing 1 and 4 c.c. respectively; 1 c.c. of bromine should be added to 11 c.c. of the solution as required.

Sodii Hypophosphis.—See p. 323.

Sodii Hyposulphis.—*Syn.* **Sodii Thiosulphas.** —See **Acidum Sulphurosum,** p. 37.

Sodii Iodidum (*Off.*). *Dose.*—3 to 20 grains.

A very deliquescent white powder; may be made by decomposing a solution of iodide of iron with carbonate of sodium, filtering and evaporating the filtrate to dryness. Soluble 3 in 2 of water.

Sodii Nitris, Nitrite of Sodium (*Off.*).

Dose.—2 to 5 grains.

Compressed Tablets, 2½ grains each, are prepared.

A white, deliquescent, granular crystalline powder, with a cooling saline taste, soluble 2 in 3 of water; useful in angina pectoris and in epileptiform convulsions. In these has an action similar to nitrite of amyl.—Pr. xxviii.429; Pr. xxx.179,321.

17 cases of epilepsy, in 9 the drug succeeded in controlling the fits, 12 grains the most suitable dose.—L. ii./82,941; B.M.J. ii./82,1095.

In epilepsy, scruple doses, with the same of bromide of potassium, after 8 weeks patient thought himself better. In another case, scruple doses given alone, it failed.—Pr. xxx.105. (? Impure salt used.)

Its effects in cases of angina pectoris, in dose of 5 to 10 grains, compared with nitrite of amyl and nitroglycerine are said to be more lasting.—Pr. xxx.179,321; L. i./90,240.

To healthy adults doses of 10 and 5 grains are unbearable, and many cannot bear even 3-grain doses.—L. ii./83,766.

In dyspnœa of bronchitis and asthma is preferred to nitrite of amyl or of ethyl, on account of its being more stable.—Intern. Jour. Med. Sci. Oct. 1887,393, Feb. 1888,122.

The best remedy for asthma, dose 3 to 5 grains, frequently repeated; specially useful combined with hyoscyamus.—L. i./90,240.

Sodii Permanganas.—See p. 267.

Sodii Phosphas (*Off.*).

Syn. HYDRIC-DI-SODIC PHOSPHATE; TASTELESS PURGING SALT; PHOSPHATE OF SODIUM.

Dose.—20 grains to 1 ounce, may be given in broth or soup.

Soluble 1 in 5 of water, is very efflorescent, loses 63 per cent. of its weight when heated to dull redness.

Sodii Phosphas Effervescens.

Dose.—1 to 3 drachms.

This forms a convenient and pleasant mode of taking this useful purgative.

Sodii Phosphas Effervescens (*Off.*).

Dose.—$\frac{1}{4}$ to $\frac{1}{2}$ ounce.

Phosphate of Sodium 100 (reduced by drying to 40), Bicarbonate of Sodium 100, Tartaric Acid 54, Citric Acid 36. Granulated by heating, stirring, and sifting. Product weighs about 200. *In strength approximates the last preparation, which was introduced by the writer.*

Sodii Phosphas Exsiccata.

Dose.—10 grains to 4 drachms in some warm liquid.

Phosphate of sodium is mildly aperient, well suited for a delicate stomach; in small doses it is antacid and diuretic, useful in bilious sick-headache and jaundice.

It acts as a powerful hepatic stimulant and a moderately powerful intestinal stimulant, on the dog.—B.M.J. i./79,177.

For hepatic calculi, 60 grains 3 times a day, recommended with $\frac{1}{20}$ grain arseniate of sodium added, if any evidences of gastric intestinal catarrh are present.—B.

Sodii Salicylas.—See Acidum Salicylicum, p. 29.

Sodii Santonas.—See Santoninum, p. 362.

Sodium Silicate, Solution of.

Syn. SOLUBLE GLASS, Water Glass.

A viscid solution, of the consistence of treacle, usually containing 10 per cent. of caustic soda and 20 per cent. of silica. Silicate of Sodium solution has a remarkable power in arresting the putrefaction of organic matter. Diluted solutions have been employed as injections in leucorrhœa, gonorrhœa, uterine ulceration, into the bladder in cystitis, and the nostrils for ozæna. The corresponding potash preparation has been similarly used, also in erysipelas diluted with from 4 to 11 parts of water. The latter, care being taken that it was neutral, has been employed to paint over the affected part with success.—Pr. xv.293.

Potassium Silicate, Solution of.

Syn. SOLUBLE GLASS, Water Glass.

Is less viscid than the last. Both preparations have been employed to impregnate bandages for treating fractures and other surgical cases, in place of starch; but the potassium solution, if nearly neutral, is preferred.

Sodii Sulphas Exsiccata, P.G. III.

Dose.—½ to 2 drachms.

On drying sulphate of sodium (Glauber's salt) it loses about one-half its weight (the water of crystallization), leaving the anhydrous salt—a preparation which is much more convenient for use in dispensing, especially in powders. The Epsom salt, although a more active aperient than Glauber's salt, does not stimulate the liver like the latter, and is not nearly so agreeable to take. In weak solution these salines act much more efficiently. —Pr. xvii. 241.

Sulphate of sodium exhibits no poisonous action when injected into the circulation, but sulphate of magnesium when so injected acts as a powerful toxic agent, paralysing first the respiration and afterwards the heart. Neither purge when injected into the blood or subcutaneously.—B.M.J. i./85,1161.

Glauber's salt is most pleasant to take, in the form of

Sodii Sulphas Effervescens, Granular Effervescent Sulphate of Sodium.

Dose.—A teaspoonful, more or less, in half a tumbler of water, taken half an hour before breakfast; it produces as a rule *one* efficient evacuation.

An agreeable and palatable aperient introduced by the writer, stimulating both the liver and bowel without causing depression. Its action resembles that of Carlsbad Water. It is suitable for travellers, being portable, and stable in composition.—L. ii./79,879; B.M.J. i./80,21.

Sodii Sulphas Effervescens (*Off.*).

Dose.—¼ to ½ ounce.

Sulphate of Sodium 100 (reduced by drying to 44), Bicarbonate of Sodium 100, Tartaric Acid 54, Citric Acid 36. Granulate by heating, stirring, and sifting. Product weighs about 200. *In strength approximates the above preparation.*

Sodio-Magnesii Sulphas Effervescens, Granular Effervescent Sodio-Magnesian Aperient.

Dose.—A teaspoonful, more or less, in half a tumbler of water, taken half an hour before breakfast.

An agreeable and efficient aperient introduced by the writer. The Sulphates of Sodium and Magnesium combined resemble Hunyadi Janos and Pullna waters; also Friedrichshall, if a little common salt be added to each dose. This preparation is palatable, stable in composition, and convenient to use when travelling.

Magnesii Sulphas Effervescens (*Off.*). — *Syn.* EFFERVESCENT EPSOM SALT. *Dose.*—¼ to 1 ounce. Sulphate of Magnesium 100 (reduced by drying at 130° F. to 77), Bicarbonate of Sodium 72, Tartaric Acid 38, Citric Acid 25, Sugar 21. Granulate by heating, stirring, and sifting. Product weighs about 200.

⁂ The activity and palatability of the last four preparations may be increased, especially in winter, if taken in warm water. The combination of the two salts makes a more active purgative, but the effervescent sulphate of sodium alone is more pleasant to take.

Sal Carolinum Factitium, P.G., III. **Artificial Carlsbad Salt.**

Dose.—20 to 60 grains, in a tumbler of warm water. Dried Sulphate of Sodium 44, Sulphate of Potassium 2, Chloride of Sodium 18, Bicarbonate of Sodium 36, all in fine powder. Mix. 53 grains to 1 pint of water is similar to Carlsbad Water.

Pulvis Sodæ Tartaratæ Effervescens (*Off.*). **Seidlitz Powder.**

Tartarated Soda, in dry powder	...	120 grains
Bicarbonate of Sodium ,,	...	40 grains
In the blue paper.		
Tartaric Acid ,,	...	38 grains
In the white paper.		

Sodii Sulphis.—See **Acidum Sulphurosum**, p. 37.

Sodii Sulphocarbolas.—See p. 14.

Sodii Sulpho-Ichthyolas.—See p. 235.

Sodii Sulpho-vinas, Sulphovinate of Sodium. *Syn.* SULPHETHYLATE OR ETHYLSULPHATE OF SODIUM.

Dose.—¼ to 1 ounce is a tasteless aperient, and does not cause colic. The salt is in efflorescent colourless crystals.

Sodii Taurocholas, Taurocholate of Sodium.

Dose.—2 to 6 grains, in pill, which should be keratin-coated to prevent solution until it reaches the bowels. A white or whitish amorphous powder, prepared from pig's bile. Should be free from glycocholate of sodium, with which it is naturally associated. It has been recommended for gouty obesity and dyspepsia.—L. i./85, 745,917.

Sodii Telluras. *Dose.*—⅓ to ⅔ grain in pill once daily. A powerful antisudorific, given in phthisical and other sweating. It gives the characteristic tellurium smell to the breath, and may cause diarrhœa if pulmonary lesions are far advanced.—B.M.J.E. i./91,110; ii./91,182.

Sozo-iodol.—See p. 246.

SPARTEINÆ SULPHAS.

Sulphate of Sparteine.

Dose.—¼ to 1 grain, increased.

The sulphate of an alkaloid obtained from the leaves and branches of Broom, *Cytisus Scoparius*. Is in colourless rhombohedral crystals, soluble 3 in 2 of water. The pure alkaloid is a syrupy liquid.

Hypodermic Lamels of Sparteine contain 1 grain combined with gelatine.

Pills of Sparteine contain ¼ grain each.

Sparteine has been recommended as a remedy for morphine habit.—See p. 277.

Has a tonic action on the heart, restoring its rhythm and accelerating its beats when in a weak atonic state. B; L.i./87,391.; Th. Gaz. 1887,837; B.M.J. i./86, 282; L. ii./87,319. Is not cumulative, a valuable diuretic, should be tried when digitalis fails, relieves stenocardiac attacks.—B.M.J. i./88,363; i./91,687.

Useful in infantile diphtheria, $\frac{1}{10}$ grain 4 times daily, with or without digitalis.—B.M.J. ii./88,649.

Pulse is slowed and increased, and activity of heart reduced. Should be used where digitalis is contra-indicated. Suggested use in angina.—Th. Gaz. 1889,346.

Prompt in action, but inferior to digitalis in power; useful in uncompensated heart disease.—Pr. xliv.60.

SPHAGNUM.

Turf-Moss, Bog-Moss, *Sphagnum, sp. var.*

This, when dried, on account of its elasticity and great capability of sucking up or imbibing liquids, forms a useful dressing for absorbing the discharge from open wounds, and especially urinary discharge in bladder, kidney, and dropsical affections. It is antiputrescent, and may be made thoroughly antiseptic by being sprayed with sublimate solution before use. It is sold in compressed sheets, like cardboard, which absorb eight times their weight of water, and when disintegrated, may be formed into pillows or pads by enclosure in muslin bags. —P.J. 1884,591; B.M.J. ii./87,829.

Recommended as an absorbent of pus, leaving wound clean. May be used as a padding for splints.—M.C. Feb. 1892,292.

Staphisagriæ Semina (*Off.*).—See p. 175.

STILLINGIA, U.S.

The root of *Stillingia sylvatica*, Queen's Root, Queen's Delight, is used medicinally in America. Contains an alkaloid Stillingine (not to be confounded with Stillingin, *see below*). In large doses it is emetic and cathartic, in small doses alterative, used for scrofula, syphilis, jaundice, dropsy depending on liver disease, and for piles.

Extractum Stillingiæ Fluidum, U.S.

Dose.—15 to 60 minims, one part = 1 of root.

Liquor Stillingiæ Compositus, McDade's Succus Alterans.

A remedy for syphilis, consists of fld. ext. Smilax Sarsaparilla, fld. ext. Stillingia, fld. ext. Lappa Minor (burdock), fld. ext. Phytolacca, of each 2 oz., tincture of Xanthoxylum Carolinianum (prickly ash), 1 oz.; a teaspoonful increased to a tablespoonful three times a day before meals.—B.M.J. i./83,449; B.M.J. ii./87,655.

Stillingin. The chocolate brown powdered extractive.

Dose.—1 to 3 grains in a pill.

STRONTIUM.

Strontii Bromidum. *Dose.*—5 to 30 grains.

In anhydrous white masses of small crystals, very soluble in water. Used successfully in gastric affections, dyspepsia, etc.; also in epilepsy and chronic cardiac and renal diseases. Has less toxic action, and is better borne than bromide of potassium.—B.M.J.E. ii./91,77, 183; i./92,7; Pr. xlix.141; Th. Gaz. 1892,120.

Strontii Lactas. *Dose.*—5 to 30 grains.

A white crystalline powder, very soluble in water.

Of great service in albuminuria and Bright's disease, given up to 90 grains daily.—L. ii./91,1199.

Strontium salts are innocuous, not diuretic, and check formation of albumen in epithelial and parenchymatous, but not interstitial, nephritis.—L. i./92,47.

STROPHANTHUS (*Off.*).

The mature ripe seeds of *Strophanthus hispidus var. Kombé* (Oliver), used in preparing the Kombé arrow poison in various parts of Africa, in the Manganja country near the Zambesi, in Guinea, in Senegambia, and in the Gaboon district, where it is called Inée, Onaye, or Onage. They are sometimes imported in scimitar-shaped pods, containing numerous seeds, each of which has a compressed comose appendage attached to the apex, resembling that of taraxacum, but much longer. For the sake of uniformity, the seeds alone should be used for making the galenical preparations, but all parts of the fruit are poisonous. The seeds of one variety, imported from the Niger, and said to be from *S. hispidus*, are brown, with short velvety hairs, and are smaller than those from the Nyanza district, which are of a greenish-fawn colour, and are covered with white silky hairs; the latter only are official. Two crystalline principles have been isolated from them, Strophanthin and Inein. **Strophanthin** is a white micro-crystalline glucoside, freely soluble in water, allied in its physiological and therapeutical action to digitalin. Injected under the skin of a frog, it stops the action of the heart, with the ventricle pale and contracted, whilst the auricles are dark and distended; it seems to act directly on the cardiac muscular fibre. It is a cardiac tonic and diuretic. *Dose, hypodermically.*—$\frac{1}{300}$ to $\frac{1}{100}$ grain.—P.J. 1873,523; 1877,526; B.M.J. ii./85,268,904; L. ii./85,309.

Strophanthin appears as yet not to be a well-defined chemical, or a safe therapeutic agent.—P.J. 1890,533.

By the action of weak acid solutions on Strophanthin, Fraser has obtained another crystalline body—**Strophanthidin**—and glucose. See research on.—P.J. 188

328. **Ouabaïn**, a glucoside obtained from the wood of *Ouabaïo*, of the same order as strophanthus, has similar chemical and physiological properties to strophanthin, but is much more toxic in action.—P.J. 1888,162; L. ii./88, 392; B.M.J. ii./89,1185. Strophanthin and ouabaïn produce anæsthesia of cornea and conjunctiva.—B.M.J. i./89,1418; ii./89,1185. Use objectionable.—L.i./90, 520 B.M.J. i./90,746.

Ouabaïn has been used for whooping cough in doses of $\frac{1}{1000}$ to $\frac{1}{350}$ grain every three hours.—B.M.J. i./90, 950; Pr. xlv. 137; L. ii./91,887. Study on its physiological action.—B.M.J.E. i./92,27.

Summary of effects of strophanthin :—pulse regulated and strengthened, dyspnœa and palpitation lessened, urine increased (apparently due to increase of blood pressure), appetite increased, action of bowels and perspiration not affected, — non-cumulative.—B.M.J. i./90,1327; L. ii./90,414; Pr. xlv. 130; Th. Gaz. 1890,489.

Tinctura Strophanthi (*Off.*).

Strophanthus Seeds, in No. 30 powder, and dried at 110° F., 1 ounce. Pack in a percolator, and moisten with pure ether. Macerate for 24 hours, then percolate, adding ether until the fluid passes through colourless. Remove the marc from the percolator, and dry it, gradually heating it to 120° F. Again reduce it to powder, repack in the percolator, and moisten with rectified spirit. Macerate for 48 hours, then percolate slowly with rectified spirit to produce 10 ounces, and dilute to 1 pint with rectified spirit.

Dose.—2 to 10 minims.

In aqueous mixture, preparations of Strophanthus are said to rapidly undergo decomposition. The tincture should therefore be prescribed in combination with chloroform water or spirit.—P.J. 1886,411,503; B.M.J. i./87,151.

Gives better results than strophanthin. — B.M.J. i./90,1327.

Pilula Strophanthi = 2 or 4 minims of Tincture, combined with sugar of milk. *Dose.*—1 to 3.

Tabellæ Strophanthi, each equal to 2 minims of Tincture, combined with chocolate. *Dose.*—1 to 5.

This drug is a powerful heart tonic and diuretic, replacing digitalis in many cases, and its effects are found to be non-cumulative.

Its chemistry and uses, by Fraser.—Proc. Roy. Soc. Edin. xxxv. 955; xxxvi. 343; B.M.J. ii./87,171. Essay and discussion.—B.M.J. ii./85,904 ; i./89,1369.

A valuable cardiac tonic, succeeding after digitalis has failed.—L. ii./87,202,513 ; Pr. xl./59.

Uncertain in action, and inferior to digitalis.—B.M.J. ii./87,1100,1184 ; L. ii./87,319 ; L. i./89,739.

Effects are not cumulative, is a valuable diuretic, and can replace digitalis.—L. i./87,644,964.

Is of special value in the cardiac failure of prolonged typhoid fever.—L. ii./87,201,319,605.

Produces intermittence of pulse in some cases; this passes off with *increase* of dose.—B.M.J. i./88,132.

Beneficial in heart weakness and failure of a functional nature.—B.M.J. i./88,901 ; L. ii./88,807.

Acts more promptly than digitalis, but disturbs alimentary canal, and produces local irritation when injected.—B.M.J. i/89,603.

Successful use in tetanus; 2 minims of tincture every 3 hours.—L. ii./88,111.

Of benefit in exophthalmic goître. Two minims of tincture, increased to 10, every 6 hours.—Pr. xlii.51,206.

Especially valuable in stenosis, but unsuitable in aortic disease; pulse improves in force and rhythm. Contra-indicated in angina pectoris.—L. ii./88,1047 ; i./89,199,304; P.J. 1888,606.

Successful in angina pectoris; strophanthin unreliable. —L. i./89,199,304.

A good medicament of the second order, far superior to adonis, caffeine, and sparteine.—L. i./89,252.

A valuable cardiac diuretic for children, on account of its promptness and energy of action, and its harmlessness, especially in pulmonary affections. Good results last after cessation of treatment.—Pr. xlv. 296; Ed. M.J. 1890,578.

Strophanthus of great value in renal insufficiency; advantage of immediate action compared with digitalis.—Th. Gaz. 1890,436.

Strophanthus indicated in ventricular incompetence, does not contract arterioles; possesses advantages of rapidity of effect, sustained action, and tolerance.—B.M.J. i./90,1381.

Should not be prescribed in advanced stages of heart disease, especially if nephritis present.—Pr. xliii.460; M.C. May 1890,130.

Recommended combined with Blaud's pills in chronic anæmia of females.—L. ii./91,1410.

STRYCHNINA (*Off.*).

Strychnine.

Dose.—$\frac{1}{30}$ or less to $\frac{1}{12}$ grain, in solution or in pill, triturated with sugar of milk and glycerine of tragacanth *q.s.*

The alkaloid obtained from Nux Vomica, St. Ignatius' beans (see p. 293), and the seeds of other species of *Strychnos*. In right square octahedrons or prisms, colourless and inodorous. Amorphous Strychnine should not be used, as it is more liable to contain, as an impurity, Brucine (also contained in *Nux Vomica*). Pure Strychnine should not be coloured by strong nitric acid, indicating an absence of Brucine. It is very slightly soluble in water, about 1 in 6,000, about 1 in 400 of proof spirit, soluble also in chloroform, but insoluble in absolute alcohol and ether. Its salts are more soluble, and acids render the alkaloid more soluble in water. It is very poisonous; it affects the spinal cord by producing convulsions resembling those of tetanus. Its properties are so well known as not to need further description here.

It is antagonistic to calabar bean and its preparations, yet not in the sense that the administration of the one can save life after the administration of a fatal dose of the other, as chloral may in Strychnine poisoning.—B.M.J. ii./74,805.

Liquor Strychninæ Hydrochloratis *(Off.)*. *Dose*, 5 to 10 minims; contains about 1 per cent. Strychnine 4½ grains, Water 6 drachms, Rectified Spirit 2 drachms, Diluted Hydrochloric Acid 7 minims.

B.P. formula in "parts" makes it slightly more acid, and apt to crystallize at temperatures below 40° F.

In a revision of the Pharmacopœia it would be preferable to use a salt of strychnine, which would slightly reduce the strength of the solution. The Acid Sulphate contains 77 per cent. and the Hydrochlorate 90 per cent. of strychnine; the former is readily and easily soluble. — P.J. 1892,688,708,767,807,828,848, 880.

Ferri et Strychninæ Citras.

Dose.—3 to 8 grains in aqueous solution.

In scales of a greenish golden colour resembling citrate of iron and quinine, freely soluble in cold water. It contains 1 per cent. of Strychnine. Some makers of this preparation send it out dark brown in colour, resembling citrate of iron and ammonia; it then contains only the Ferric Citrate with Ammonia, and with this preparation it is difficult to distribute the Strychnine uniformly, as it is apt to crystallize out of the concentrated liquor before "scaling."

Ferri, Quininæ et Strychninæ Citras.

Dose.—3 to 10 grains.

This is in scales of a greyish-golden colour like the former preparation, but in addition to 1 per cent. of Strychnine it contains 16 per cent. of Quinine.

Strychninæ Acetas. *Dose.*—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

In small colourless acicular crystals, soluble 1 in 44 of water, imperfectly through loss of acetic acid.

Strychninæ Arsenias, Arseniate of Strychnine. *Dose.*—$\frac{1}{60}$ to $\frac{1}{15}$ grain.

In small white acicular crystals, soluble 1 in 29 of water.

Successful in phthisis by hypodermic injection of ½ per cent. mixture with liquid vaseline. *Dose.*—4 to 15 minims daily.—L. i./89,596.

Strychninæ Hydrobromas, Hydrobromate of Strychnine. *Dose.*—$\frac{1}{30}$ to $\frac{1}{12}$ grain.

In minute white crystals, soluble 1 in 55 of water.

Strychninæ Hydrochloras, Hydrochlorate of Strychnine. *Dose*—$\frac{1}{30}$ to $\frac{1}{12}$ grain.

In light acicular crystals, soluble 1 in 42 of water.

Strychninæ Nitras. *Dose.*—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

In hard colourless needles, soluble 1 in 67 of water.

Injectio Strychninæ Nitratis Hypodermica.*

Nitrate of Strychnine ...	1 grain.
Distilled Water	100 minims.

Heat gently till dissolved.

Dose.—2 to 6 minims.

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* N.B.—In former editions this was double the above strength.

In nocturnal incontinence of urine used with good results.—Pr. xxxiii.376.

In amaurosis used with powerful curative effects.—M.T.G. i./71,76,431.

In gastralgia, no such remedy as this, also recommended to relieve pain of cardialgia and gastrodynia.—Anstie in R.

Chorea minor in child which had resisted all ordinary methods, cured by nitrate of strychnine:—$\frac{1}{20}$ grain in pill 3 to 5 times daily.—M.C. Jan. 1892,252.

Strychninæ Sulphas. *Dose.*—$\frac{1}{24}$ to $\frac{1}{10}$ grain.

The neutral salt is in prismatic crystals, soluble 1 in 32 of water.

Strychninæ Sulphas Acida.

Dose.—$\frac{1}{20}$ to $\frac{1}{10}$ grain.

In white silky acicular crystals with a slightly acid reaction, soluble 1 in 42 of water.

Injectio Strychninæ Sulphatis Hypodermica.*

Acid Sulphate of Strychnine 1 grain.
Distilled Water ... ... 100 minims.

Dose.—2 to 6 minims.

Hypodermic Lamels of Strychnine contain $\frac{1}{60}$ grain.

Strychnine hypodermically the only treatment found capable of arresting progressive muscular atrophy. Acts more directly than by mouth.—Gowers, Diseases of the Nervous System, 2nd ed., vol. i. p.496.

Bromide of Potassium 15 to 20 grains an antidote to Strychnine poisoning (Pr. xxiv.210). The dose of bromide should be at least 4 drachms and repeated in 2-drachm doses every quarter of an hour.—Murrell on Poisons.

Poisoning by three quarters of a grain successfully treated by one drachm of hydrate of chloral with half an ounce of bromide of potassium and an ounce afterwards given in divided doses.—L. i./81,52; ii./89,166.

Stimulates the respiratory centres and is useful in embarrassed breathing.—Trans. Med. Congress, 1881, i.453. Dyspnœa of anæsthesia.—Pr. xli.,401.

Paraldehyde is antagonistic to Strychnine.—M.P.C. i./84,232.

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* N.B.—In former editions this was about double the above strength.

Drink-craving in cases of alcoholism is relieved by strychnine, either by mouth or hypodermically.—B.M.J. i./86,835; i./88,90; i./89,121; ii./91,677; L. i./88, 642; i./89,1068; i./90,980.

Produces healthy sleep in cases of insomnia from worry.—Pr. xl. 28.

Is of immense value in obviating and controlling post partum hæmorrhage.—B.M.J. ii./85,913,1059; i./86, 175.

Combined with acetic acid has even more power over the uterus.—B.M.J. i./88,743.

Hypodermically useful in narcotic poisoning.—Pr. xli.401.

Poisoning by 2 to 3 grains.—L. ii./89,951.

Strychnine increases the amount and the acidity of the gastric juice, hastens absorption from stomach and strengthens mechanical movements. Most effective drug in chronic alcoholism.—L. i./91,897.

Paralysis of soft palate after diphtheria in children quickly cured by hypodermic injections of $\frac{1}{32}$ to $\frac{1}{20}$ grain. —L. i./91,1060.

Many cases of snake and adder bites in Australia cured by hypodermic injection; also bite of poisonous spider.—L. i./91,1343; i./92,483; Pr. xlvi.449; xlviii. 291; B.M.J.E. i./92,53; P.J. 1891,1139; *ex* Austral. Med. Gaz. Dec. 1891,78,84,89,90. Also several cases in India.—L. i./92,1183.

SULPHONAL (*Off.*).

Dose.—15 to 40 grains. In cachets or suspended in water with mucilage. Should be finely powdered, and followed by a draught of hot fluid. Unless in solution, a dose should be given at least an hour before sleep is desired.

Syn. Diethylsulphon-dimethyl-methane. Produced by oxidation of a mixture of ethyl-mercaptan and acetone. Is in colourless tabular crystals, tasteless and odourless, soluble about 1 in 450 of water, 1 in 50 of cold, freely in hot spirit. Melts at 125·5° C.

Haustus Sulphonal, G.H. Sulphonal 20 grains, Mucilage Mixture (see p. 63) 1 ounce.

Sulphonal is completely changed during passage through the body; the substance formed is stable, not increasing elimination of sulphuric acid; does not affect the met bolism of nitrogenous tissues, nor disturb stomach or bowels.—Pr. xlii.16.

Is a soporific, does not affect digestion, pulse, or temperature; efficacious in sleeplessness of nervous subjects. —B.M.J. i./88,864,1113; ii./88,31,1278; ii./89,838, 1333; Pr. xlii.11,54,131.

If dissolved in two-thirds of a tumblerful of boiling water, may be diluted to about a tumblerful with cold water, or stirred until sufficiently cool to drink and remain in solution. Best method of administration.— L. i./91,447; i./92,436; Pr. xlvii.139.

Is slow in action on account of slight solubility; 30 grains may be given in solution in 1 ounce of brandy with 2 ounces of boiling water added (=about 140° F.). Is useful in all cases except mania.—M.P.C. i./89,532.

Certain and rapid effect in insomnia with nervous irritability, 12 cases; less marked in 7 neuralgic cases; failure in cardiac asthma and epilepsy. Bad effects in three cases.—Pr. xlii.370.

Night-sweats of phthisis reduced, and sleep increased by 8-grain doses. Contra-indicated in angina.—C.&D. ii./88,99.

Unsuccessful in cases of melancholia and epileptic insanity; produced anorexia, headache, and emesis; is cumulative in action; increases arterial tension, and depresses respiration.—Th. Gaz. 1889,247.

Studies on its action; sleep produced natural and undisturbed by dreams; useless in mania or delirium tremens.—B.M.J. i./89,952.

Good results in simple insomnia, cancer of rectum, and cerebral meningitis.—B.M.J. i./89,1113.

A successful hypnotic, also as a sedative in acute maniacal or hysterical delirium and epileptiform convulsions. Less effect in chronic forms of insanity.— B.M.J. i./89,1246; Th. Gaz. 1889,485.

Prevents night-sweats in doses of 4 to 7 grains, effects somewhat permanent.—L. i./89,854; i./90,618; Th. Gaz. 1889,402; Y.B. 1890,38.

Thirty grammes (463 grains) taken, caused 114 hours sleep, with one short interval; no bad effects.—L. i./89, 915; P.J. 1889,861.

Successful use in insomnia associated with cardiac or Bright's disease, and where opium is contra-indicated.— L. i./89,1003.

Successful in mania; large doses added to tea and coffee kept a violent lunatic tranquil. Also good results in insomnia of locomotor ataxy. Fifteen grains, with 8 grains of antipyrine, generally ensures a quiet night in fibrous rheumatism.—B.M.J. ii./89,817.

Sulphonal valuable in cases of insanity; also in typhus, patients benefited by the sleep, and suffered not from the remedy.—L. ii./89,1051,3; i./92,209.

A reliable hypnotic, but sometimes followed by diarrhœa, vomiting, giddiness, depression, and interference with cerebral functions.—B.M.J. i./90,710.

Report of Therapeutic Committee, B.M.A.—B.M.J. ii./90,237; Pr. xlv.216; P.J. 1890,104; Th. Gaz. 1890,623.

Report of 82 cases; uniformly successful, especially in children. One case of morphine habit broken by its use. No ill effects from continued use.—M.C. April 1890,32.

Good results in eight cases of chorea; in two unsuccessful.—L. ii./90,1048.

Trismus neonatorum cured by enemata of 3 grains, supplemented by internal use.—L. i./91,1060.

Useful in diabetes, but after some time caused giddiness and sleepiness.—L. ii./90,938; M.C. April 1891,46.

Toxic effects.—L. ii./90,907; i./92,436; B.M.J. ii./90,237,955; P J. 1890,380; 1892,695; Th. Gaz. 1891,70.

Is not without risk if given in cases attended with considerable physical prostration. Two cases of alarming symptoms from doses of 20 grains given to convalescents from influenza.—L. i./92,488.

Tetronal.—*Syn.* Diethylsulphon-diethyl-methane.

Dose.—10 to 20 grains. Best administered in cachets, followed by a draught of hot liquid.

In shining white crystalline tablets, or acicular crystals, melting at 185° F., odourless, with a camphoraceous bitter taste. Soluble 1 in 450 of water, 1 in 15 of spirit.

Tetronal is allied to sulphonal, containing four ethyl groups in a molecule, two of which replace the two methyl groups in sulphonal, and it is stated that this doubles the hypnotic effect. If only one methyl group in sulphonal be replaced by ethyl, **Trional** is formed, which has a hypnotic action intermediate between those of sulphonal and tetronal.—P.J. 1889,161; B.M.J. i./90,87.

Tetronal and Trional useful in some cases where Sulphonal failed; their advantage consists in having fewer after-effects.—B.M.J.E. ii./90,22; P.J. 1890, 161; Th. Gaz. 1890,699.

SULPHUR.

Dose.—20 to 60 grains in milk, treacle, with confection of senna, or as Pulvis Glycyrrhizæ Compositus (p. 213).

This is official as **Precipitated Sulphur** and **Sublimed Sulphur.** From the latter is prepared Confectio Sulphuris: Sulphur 4, Acid Tartrate of Potassium 1, Syrup of Orange-peel 4, Tragacanth $\frac{1}{24}$—*dose*, 1 or 2 drachms; and Unguentum Sulphuris: 1 to 4 of Benzoated Lard; it is also used for making the two following ointments, but **Precipitated Sulphur** in all these preparations, for use either internally or externally, being free from grittiness, is much to be preferred: it is in fine powder if genuine, sublimes without residue, and has not the glistening appearance of the old lac sulphuris (due to the presence of sulphate of calcium).

Trochisci Sulphuris (*Off.*).

Contain Precipitated Sulphur 5 grains, Acid Tartrate of Potassium 1 grain, Tincture of Orange Peel 1 minim in each, with Sugar and Acacia. *Dose.*—1 to 6.

Continued use beneficial in some chronic diseases of alimentary canal and liver, also of skin and articulations. —Pr. xliii.218; L. i./89,665; Th. Gaz. 1889,408.

Where sugar is to be avoided, may be given as

Pastillus Sulphuris Compositus.—See p. 211.

Unguentum Sulphuris c. Hydrargyro, U.C.H.

Sublimed Sulphur 30 grains, Ammoniated Mercury 5 grains, Olive Oil 8 minims, Lard 8 drachms. To this may be added, to disguise its colour or odour, or increase its activity, either 2 grains of vermilion, 10 minims of eucalyptus oil, 10 grains of carbolic acid, or 5 minims of creasote. Useful in scabies and allied skin diseases of doubtful diagnosis.

Unguentum Sulphuris Hypochloritis.

Sublimed Sulphur	1 drachm.
Essential Oil of Almonds ...	10 minims.
Prepared Lard	7 drachms.

Mix, and add with quick manipulation

Chloride of Sulphur (Liquid) - 8 minims.

Keep in a stoppered bottle; is sometimes made double this strength, *i.e.*, with half the quantity of basis. Useful in acne, psoriasis, and scabies.

Unguentum Sulphuris Iodidi (*Off.*). Has 30 grains to hard paraffin ¼ ounce and soft paraffin ¾ ounce; it mixes more readily if the iodide be first triturated with a little spirit; is useful for acne.

Sulphuretted Hydrogen treatment of Phthisis.

Bergeon and Cornil have introduced this plan of injecting into the rectum carbonic acid gas which has been passed through sulphuretted water; it is readily absorbed, and is exhaled by the pulmonary and bronchial surfaces, and there comes into contact with the organisms of phthisis. It is claimed that the direct effects are, lessened cough, improved sputa, cessation of sweating, increased dryness of rales, and general improvement of condition.—Y.B.1886,30; 1888,29; Th.Gaz.1887,217, 723; L.i./87,761; ii./87,11,228,605; B.M.J.ii./86, 1049; i./87,93,883; ii./87,843; Birm. Med. Rev. 1888, May, 212.

TABLETS, COMPRESSED,

Are prepared of a lenticular shape as follows:—

Acetanilide	5	grs.	in each.
Ammonium Bromide	5	,,	,,
Ammonium Chloride	3	,,	,,
{ Ammonium Chloride	2½ }	,,	,,
{ Borax	2½ }		
Antifebrin	5	,,	,,
Antipyrine	5	,,	,,
Cascara Extract	2	,,	,,
Dover's Powder	5	,,	,,
Lithium Citrate	5	,,	,,
Manganese Dioxide	2	,,	,,
Pepsine	1	,,	,,
Peptonic (pepsin and pancreatin)			
Phenacetin	5	,,	,,
Phenazone	5	,,	,,
Potassium Bicarbonate... ...	5	,,	,,
Potassium Bromide ...	5 and 10	,,	,,
Potassium Chlorate	5	,,	,,

Potassium Chlorate (effervescing)	3	grs.	in each.
Potassium Chlorate	3½	,,	,,
Ammonium Chloride	1½		
Potassium Chlorate	2½	,,	,,
Borax	2½		
Potassium Iodide	5	,,	,,
Quinine Bisulphate	1 and 2	,,	,,
Saccharin	½	,,	,,
Salol	5	,,	,,
Sodium Bicarbonate	5	,,	,,
Sodium Bromide	5	,,	,,
Sodium Chlorate Borax	5	,,	,,
Sodium Nitrite	2½	,,	,,
Sodium Salicylate	5	,,	,,
Sublimate, *for Lotions*, see p. 222.			
Sulphonal	5	,,	,,
Zinc Sulphate, *for Red Lotion*, see p. 408.			
Zymine.			
Zymine	2	grs. in each.	
Bismuth Subnitrate	3		
Ipecacuanha	$\frac{1}{10}$		

Soda-Mint, or Neutralising Tablets.

Sodium Bicarbonate	4	,,	,,
Ammonium Carbonate	¼		
Oil of Peppermint	⅙		

Voice Tablets.

Potassium Chlorate ... ...
Borax ... ...
Cocaine ... ...

TEREBENA PURA.

Pure Terebene.

Dose.—5 to 30 minims.

An isomer of oil of turpentine produced by the action of sulphuric acid (oil of vitriol) on the latter, and distillation. Chemically, it is not a simple body, but consists of camphene, cymene, borneol, and terpilene; the last substance possesses the most active, or rather toxic, properties. Is colourless, and has a very agreeable odour resembling fresh-sawn pine wood. It is not miscible with water, but may be emulsified by mixing it with one-sixth its weight of tragacanth powder, then adding water and shaking well. It is a powerful yet agreeable antiseptic, disinfectant, and deodoriser.

Capsules of Terebene contain 5 minims each.

Mistura Apomorphinæ et Terebenæ.—See p. 63.

Vapor Terebenæ, T.H.

Terebene, pure	... ...	40 minims.
Light Carbonate of Magnesium		20 grains.
Distilled water	... to	1 ounce.

A teaspoonful in a pint of water at 140° for a stimulant inhalation. For medicating the antiseptic respirators, 10 drops of a mixture of equal parts, Terebene, carbolic acid, and spirit of chloroform, is often used.

A dark-coloured liquid, with an odour resembling but not so agreeable as the above, is sold as a disinfectant, under the name of Terebene, and must be distinguished from the pure chemical bearing this name as above described; it is a useful deodoriser, but, being insoluble in water, does not permeate decomposing substances.

The vapour of Terebene is a useful sedative and antiseptic inhalation in phthisis, and, administered internally at the same time in 5-minim doses, it destroys the virus of swallowed sputa, and lessens the risk of intestinal infection; useful also in dysentery.—B.M.J. ii./81,666.

Recommended for medicating the cotton wool of respirator for dry antiseptic inhalation in phthisis.—B.M.J. ii./82,7; Pr. xxix.94.

For winter cough, drops taken on sugar, and inhaled.—B.M.J.ii./85,1103,1184.

Report of Investigation Committee.—B.M.J.i./87,795.

Terpinum Hydratum, P.G. III.—*Syn.* TERPENE HYDRATE; **Hydrate of Oil of Turpentine.**

Dose.—2 to 6 grains or more.

A derivative of oil of turpentine in prismatic crystals, resembling those of hydrate of chloral, soluble in water about 1 in 200, more so if heated, soluble 1 in 10 of alcohol, and about 1 in 6 in oils. Has the odour of terebene, and has been used with success in bronchitis, chronic and subacute; it assists expectoration in catarrhal affections.—M.T.G.ii./84,768; L. ii./85,404. Is also a diuretic.—L.i./88.464.

Small doses loosen phlegm, large ones check expectoration and hæmoptysis: give it before meals.—B.M.J. i./86,85,221,418.

In doses of 15 to 20 grains reduces secretion of bronchial mucous membrane and lessens expectoration. Three or four 15-grain doses daily arrest and prevent hay fever.—Th. Gaz. 1891,811.

Lessens secretion in initial catarrh of phthisis; useful as a hæmostatic in bleeding from lungs. Mitigated attacks of pertussis, given in large doses—20 to 45 grains daily; no albumen or blood found in urine; bronchial catarrh improved more rapidly than usual.—Pr. xliv.457.

Terpinol, an agreeable aromatic liquid, is obtained by the action of dilute hydrochloric or sulphuric acid on terpene.

Summary of results, if it disorder the stomach, give it during meals.—Th.Gaz.1887,829.

TEREBINTHINA CHIA.

Chian Turpentine, P.L.

Dose.—5 to 10 grains.

An oleo-resin flowing from the incised trunk of *Pistacia Terebinthus;* obtained from Chio. The use of this drug, which had fallen into desuetude, was, in 1880, revived as a remedy for cancer of the female generative organs. In commerce it is often factitious. The genuine drug has a very firm honey-like consistence, yet is slightly brittle, and becomes more so with age and exposure to the air. It is translucent, small pieces appear yellow or brownish-yellow, but in mass it has a greenish-brown colour. It has, when fresh, a distinctive odour, slightly like the pinaceous turpentines, but much more agreeable and aromatic, resembling citron and jasmine, or, according to Pereira and Guibourt, more like fennel; but there is always a background smell like that of mastiche, which becomes more developed and distinct with age, when it has lost the volatile portion, the essential oil. Its taste resembles that of mastiche; it is agreeable and free from the bitterness and acridity of the pinaceous turpentines.—P.J. 1880, 854,271.

Mistura Terebinthinæ Chiæ.

Acacia in powder ...	... 480 grains.
Tragacanth in powder	... 100 grains.
Chian Turpentine ... dissolved in	... 480 grains.
Ether	... 1 ounce.
Distilled Water to ...	... 16 ounces.

To the powders contained in a dry mortar, add the solution and mix; then add boldly 2 ounces of water, triturate until emulsified, and add gradually 11 ounces of water. Stir frequently until the ether has evaporated, transfer to a bottle, and add water *q.s.* to 16 ounces.

Dose.—At first, 3 drachms daily, in divided doses, after food; gradually increased to 9 drachms daily. Contains 30 grains in 1 ounce. This mixture has now replaced the formulæ previously published, and in many cases of cancer proves of undoubted service.

Pilula Terebinthinæ Chiæ.

Chian Turpentine 3 grains, Sublimed Sulphur 2 grains. Make 1 pill: dose, 2 every 4 hours. Lycopodium may be added to preserve their shape.

Pilula Terebinthinæ et Zinci, L.H.

Chian Turpentine 4 grains, Sulphate of Zinc 1 grain. Make 1 pill: dose, 1 to 3 pills.

Cases of cancer of the female generative organs successfully treated by Chian turpentine.—L. i./80,477, 582; ii./80,553,955; i./81,155; ii./81,1033; Pr. xxv.45.

Summary of correspondence.—M.R. 1880,446.

Its failure in the treatment of cancer.—L. i./80,1019; L. ii./81,1155; L. ii./86,895.

Pharmaceutical preparations of.—P.J. 1880,854.

Letter on production of.—L. ii./80,588; P.J. 1880,271.

Sarcoma, case of, benefited by.—L. i./82,866.

Beneficial effect in cases of cancer of mouth and tongue.—B.M.J. i./88,895.

TEST SOLUTIONS.

Fehling's Solution, Solution of Potassio-Cupric Tartrate (*Off.*).

No. 1. Sulphate of Copper 346·4, Distilled Water to 5000.

No. 2. Caustic Soda 765·625, Tartarated Soda 1750 Distilled Water to 5000.

Mix equal volumes when required. Of this, 10 c.c.

will be decolorised and reduced by 0·05 gramme (or 53 minims = ¼ grain) of glucose or diabetic sugar in solution, with precipitation of yellowish red cuprous oxide, when the two are boiled together. No. 2 solution should not be kept in a very cold place, else it will crystallize. By keeping the copper solution separate from the alkaline solution the test is prevented from becoming erroneously sensitive.*

Cupric Pellets,—the salts of Fehling's solution are prepared compressed into tablets.

Glass Capsules, containing about 1 c.c. of Fehling's Solution, are also prepared.—L. ii./80,192.

Uroglycuronic acid, found in urine after administration of morphine, chloral, and chloroform, reduces Fehling's solution. Care necessary in determining presence of sugar.—B.M.J. ii./88,691; i./90,169; P.J. 1890,606.

Papers impregnated with **Indigo-Carmine, Sulphindigotate of Sodium,** are also prepared for testing urine for sugar, they can be had for qualitative testing or for quantitative estimation.—L. i./83,858,928,1021.

***Ammoniated Cupric Test** (Pavy).

Tartarated Soda, and Caustic Potash, of each 178 grains.
Distilled water ... ... *q.s.*
Dissolve and add in aqueous solution
Sulphate of Copper ... ... 36¼ grains.
When cold add
Strong solution of Ammonia, sp. gr. 0·88 ... 6 ounces.
Distilled Water... ... ... to 1 pint.

This solution is not hyper-sensitive, ammonia is a solvent for the suboxide of copper, yet it does not interfere with the reduction of the oxide in sugar testing. 10 c.c. of the solution further diluted are kept boiling in a flask, air being excluded, while the urine *q.s.* is added to discharge the colour; a table shows the amount per 1,000 it will contain.—L. i./84,376.

Fehling's Test, modified by Schmiedeberg. Said to be stable, simple, rapid and accurate.

Sulphate of Copper 4·15 grammes, Pure Mannite 10·0 grammes, Caustic Potash 20·4 grammes, Strong Solution of Ammonia (·88) 300 c.c., Pure Glycerine 50 c.c., Distilled Water *q.s.* to 1 litre. Dissolve the sulphate of copper in part of the water, and add the glycerine and mannite. Dissolve the caustic potash separately, mix the solutions, and when cold add the ammonia and water *q.s.* to 1 litre. Filter. 25 c.c. will be reduced by exactly ¼ grain sugar.

Method. Into a glass flask pour 25 c.c. of the test, and 50 c.c. of water, and heat to boiling point; as it begins to bubble lightly drop in the saccharine urine from a pipette until the blue colour disappears. The quantity used contains exactly ¼ grain.—Pr. xliv. 378.

Phenyl-hydrazine Hydrochlorate is also used as a test for sugar. It is in colourless, shining, crystalline scales; and should be free from azo-compounds. A small quantity is warmed with twice its weight of sodium acetate in solution, an equal volume of the suspected solution added, and boiled for 20 minutes. On cooling, yellow crystals of phenyl-glucosazine are deposited if sugar be present.—B.M.J. i./87,469; L. ii./90,458. Solution (1 in 1,000), recommended as a non-poisonous antiseptic.—P.J. 1889,608.

Albumen Tests :—

Acidulated Brine Test.

Diluted Hydrochloric Acid...	1 ounce.
Water	19 ounces.
Common Salt	3 pounds or *q.s.*

To saturate. An equal volume of this solution is carefully added to the suspected urine contained in a test-tube held aslant. If albumen be present, a white cloudy zone appears at the junction of the two fluids. The precipitate is not insoluble, but is redissolved by dilution with water, or even with the albuminous urine itself.—L. ii./82,613.

Ferrocyanic Acid Test Pellets.

Yellow Prussiate of Potassium and Acetic or Citric Acid mixed in solution set free Hydroferrocyanic Acid. On the addition of such a solution to urine, it gives, without heat even, a distinct opalescence if a small, and a dense white precipitate if a large, quantity of albumen be present. Pellets are made of citric acid and also of ferrocyanide of potassium to be portable. In about a drachm of urine, in a test tube, an acid pellet is first dissolved, next a ferrocyanide pellet is added and allowed to dissolve (without heat); if albumen is present a precipitate will immediately appear. This test does not precipitate peptones.—L. ii./82,823; L. i./83,191; B.M.J. i./83,308.

Iodomercurate of Potassium Solution, for volumetric estimation of albumen.

Iodide of Potassium	3·22 grammes.
Perchloride of Mercury ...	1·35 grammes.
Distilled water ...	to 100 c.c.

Confirmatory Solution.

Perchloride of Mercury ...	1 gramme.
Distilled water	100 c.c.

To 10 c.c. of urine add two drops of acetic acid, and the volumetric solution, drop by drop, stirring after each addition, counting the drops, until the urine is apparently unaffected by the test; now, after adding each drop of the test, put a drop of the urine being tested on a white porcelain dish and watch if a yellowish red colour appears on adding a minute drop of the Confirmatory Solution; as soon as it does, the albumen in the urine is exhausted. Each drop of test used (*minus* 3 for excess) represents 0·5 gramme of albumen per litre in the urine under examination. The test should be added from a pipette, delivering drops 5 centigrammes each.—L. ii./82, 614; L. i./83,139.

Millon's Reagent.—Nitroso-Nitrate of Mercury. Mercury 10, Nitric Acid (Sp. Gr. 1·185) 25 by weight, Water 25. Dissolve in a flask at lukewarm heat, shaking often, and add to a solution formed by dissolving Mercury 10, in Nitric Acid (Sp. Gr. 1·25 to 1·3) 22 by weight without artificial heat. With albumen or urea this gives a yellow, then red coloration on heating.

Picric Acid Solution, Saturated.

The solution is carefully poured upon the urine contained in a test tube, and when this is held aslant an opalescent coagulated albuminous precipitate forms immediately between the yellow test solution at the top and the urine below, if albumen be present. It has also been suggested as a test for sugar in urine, as solution of glucose, if boiled with picric acid and solution of potash, reduces the yellow picric acid to deep red picramic acid, forming picramate of potassium, the depth of colour depending on the amount of sugar present.— L. ii./82,737,869,898,959,1002,1053,1095; L. i./83,161,454; B.M.J. i./83,505; B.M.J. ii./84,690, 1314; L. ii./84,1083.

The administration of alkaloids may cause urine to give a precipitate with picric acid, but this is redissolved on heating to the boiling point.—B.M.J. i./84,103,219.

Test Papers are prepared for testing urine for albumen impregnated with Peptone, Potassio-Mercuric Iodide, Potassium Ferrocyanide, Potassio-Mercuric Iodo-Cyanide, and Sodium Tungstate; and compound papers impregnated respectively with Picric Acid combined with Citric Acid, Sodium-Tungstate with Citric Acid, and Potassio-Mercuric Iodide with Citric Acid. (The last can be had for qualitative testing, and for quantitative estimation by a comparative opacity method.)—L. i./83,139,190; Pr. xxxii.91.

Salicyl-Sulphonic Acid.

In colourless crystals, freely soluble in water; prepared by action of sulphuric anhydride on salicylic acid. Soluble in water and alcohol.

Is an extremely precise, reliable, and quick test, giving a dense white precipitate with all proteids.

Albumen, globulin, myosin, etc., coagulate on heating.

Albumoses dissolve on heating, and reappear on cooling.

Peptones are not precipitated, except in solutions saturated with ammonium sulphate.—B.M.J. i./91,837; i./92,115; Th. Gaz. 1891,401.

Trichloracetic Acid. A solution poured on albuminous urine causes a precipitation like nitric acid, without coloration (see p. 16).—B.M.J. ii./89, 1114; i./90,363,681; L. i./90,106.

It is better to drop a *crystal* into *diluted* urine, or urates may give the reaction, though zone of turbidity is narrower, and forms more slowly.—L. i./91,687.

Peptone Test for Bile.

Peptone, in powder, 30 grains, Salicylic Acid 4 grains, Acetic Acid 30 minims, Distilled Water 8 ounces.

Dissolve and filter till bright. On adding 20 minims of urine containing bile salts to 60 minims of this solution, an opalescence appears in proportion to the amount of bile constituents; it dissolves completely on adding acetic or citric acid, and diminishes, but does not disappear, on boiling.—L. i./85,741.

'Diazo' Test for Typhoid Fever (**Ehrlich**).

A. Hydrochloric Acid 10, Water to 200, Sulphanilic Acid *q.s.* to saturate.

B. Nitrite of Sodium 1, Water to 200.

For use, add 25 of A to 1 of B (this must be done immediately before use), add to an equal volume of urine and render alkaline with strong ammonia.

The reaction is indicated by a red coloration; on shaking, a characteristic pink froth appears. After 12 to 36 hours a deposit is formed, the upper part being green or black.—L. i./89,880; ii./90,413,642,693.

Summary of results in 130 cases; however regarded clinically, the reaction cannot commend itself to the chemist.—L. i./92,990.

Gabbett's Stain for Tubercle Bacilli.

Magenta Solution. Magenta 1 gramme, Rectified Spirit 10 c.c., Carbolic Acid Solution (5 per cent.) 100 c.c.

Methylene Blue Solution. Methylene Blue 2 grammes, Sulphuric Acid 25 c.c., Water 75 c.c. Float the prepared covers for 2 or 3 minutes on a little of the magenta solution in a watch glass, heated until steam rises, then wash and transfer to the methylene blue solution for 1 or 2 minutes; on removal, wash, dry, and mount in xylol balsam. The bacilli are red, the cells blue. The decolorising and contrast staining is done in one process.

Nessler's Reagent for **Ammonia** (*Off.*).—*Syn.* SOLUTION OF POTASSIO-MERCURIC IODIDE.

Iodide of Potassium ...	270 grains.
Perchloride of Mercury ...	*q.s.*
Distilled Water	1 pint.

Dissolve the iodide of potassium and 100 grains of the perchloride of mercury in 15 ounces of boiling distilled water. To this add more of the perchloride in solution until the precipitate no longer disappears on well stirring, and a slight permanent precipitate remains. Then add Caustic Soda ... ... 2 ounces.

Dissolve, add a little more perchloride solution, shake, allow to settle, and when cold, dilute with

Distilled water to ... ... 1 pint.

On the addition of this test to ammonia or an ammonium salt in solution, it lets fall a brown precipitate of Dimercuric-ammonium Iodide.

Mayer's Reagent for Alkaloids, gives a white precipitate.

Perchloride of Mercury 13·546 grammes, Iodide of Potassium 49·8 grammes, Distilled Water to 1 litre.

Phenol-phthaleïn (*Off.*), a combination of phenol with a benzene derivative, in yellowish granular crystals. This forms

Tincture of Phenol-phthaleïn (*Off.*).

One part in proof spirit 500 parts by weight;

is a colourless solution, but is turned to a purple red colour if added to a liquid containing an excess of alkali. This, again, is immediately decolorised by an excess of acid. It is not suited for ammonia estimation.

Tropæoline OO, and Methyl-Orange (Sulpho-benzene-azo-dimethylamine) have also been suggested as tests for the presence of free acids. They form yellow solutions; the colour of the solution of the former is changed to crimson by acids, that of the latter to pink, but no change of colour is produced either by carbonic acid, acid carbonates, or solutions of metallic salts.—Chem. News, ii./81,288; i./83,123; P.J. 1882,273.

Congo Red. An aniline colour prepared from tetra-azo-diphenylchloride and naphthionic acid. Is turned blue by acids, and red by alkalies (reverse of litmus).

Congo Paper is prepared by impregnating paper with a solution of Congo Red, 1 part, in 10,000 parts of a mixture of Alcohol 3, Water 1. It is not very sensitive, but may be used in cases in which results obtained with litmus remain doubtful, on account of the specific colour of the liquid. Has been used to indicate absence of Hydrochloric Acid in the stomach in cases of cancer; as weak lactic acid does not affect its colour. —B.M.J. ii./88,806.

Sodium Hypobromite, Solution of, see p. 366.

Solution for Hæmacytometer (Gowers').
Sulphate of Sodium 104 grains, Acetic Acid 1 drachm, Distilled Water 6 ounces. Filter. Sp. gr. is 1·025.

Sonstadt's Solution for **Testing Gems.**

Red Iodide of Mercury ...	3720	grains.
Iodide of Potassium ...	2830	grains.
Distilled Water	15½	drachms.

Dissolve and filter. Has Sp. Gr. 3. Used to test the specific gravity of gems. Quartz and Rock Crystal float in it, Diamond Sp. Gr. 3·5, Topaz Sp. Gr. about 3·5 and Zircon Sp. Gr. 4· to 4·75, sink in it. Phœnakite Sp. Gr. 3· is suspended in it. A solution having Sp. Gr. 3·36 may be made by using Iodide of Sodium in place of Iodide of Potassium.

THAPSIA.

The root of *Thapsia garganica*, an umbelliferous plant grown in Algeria (allied to the Silphion of the ancients); when exhausted with spirit yields a resin which is employed in the French Codex to form a rubefacient plaster, Emplastrum Thapsiæ; Fr. Sparadrap de Thapsia, Emplâtre Révulsif de Thapsia.

Theina.—See Caffeina, p. 87.

THEOBROMINA.

Theobromine.

Dose.—1 to 5 grains.

An organic base existing in cacao seeds,—*Theobroma Cacao.* It is a white crystalline powder, sparingly soluble in water, alcohol and ether. It is allied to Caffeine, being chemically viewed as dimethyl-xanthine, and Caffeine as trimethyl-xanthine.—See Caffeine, p. 87.

Diuretin. *Dose.*—90 grains daily, in six doses.

Under this name is sold a sodio-salicylic compound of theobromine, of which it contains about 50 per cent.; it is a white powder, formed like the corresponding caffeine salt (see p. 88), freely soluble in water. Is diuretic, without affecting nervous system and causing sleeplessness.—L. i./90,42; ii./90,783; P.J. 1889,501; Th. Gaz. 1890,99.

A stronger diuretic than caffeine, and effects last longer; toleration not soon established; should be avoided in cardiac degeneration, especially with albuminuria.—Th. Gaz. 1890,760; L. ii./90,838.

In infants may cause gastro-intestinal irritation.—L. i./92,657.

THUJA.

Arbor Vitæ.

From the young shoots of *Thuja occidentalis* a tincture is prepared equal in strength to one of the dried tops in 10 of 20 O.P. spirit.

Dose.—2 to 5 minims.

Like savin, Thuja has an irritating action on the skin, and has been employed to remove warts and fungoid granulations from ulcers; internally for amenorrhœa, pulmonary catarrh, and worms.—Rep. Pharm. 1886,374.

THYMOL (*Off.*).

Dose.—½ to 2 grains or more, in pills with powdered soap and a trace of spirit, or in oily or aqueous solution.

A stearoptene contained in oil of thyme, *Thymus vulgaris*, but principally obtained from the oil of the fruit of *Ptychotis Ajowan*. In large transparent rhomboidal crystals melting at 111° F. and having the odour of thyme, an aromatic peppery taste, is caustic to the skin and very irritating to the mouth and mucous membrane. Soluble 1 in 800 of water, 1 in 200 of glycerine, 1 in 8 of alcohol and glycerine, equal parts; soluble in fats and oils, and freely so in alcohol, ether, acetic acid, and caustic alkaline solutions. Thymol has been synthetically prepared from Cuminol, a constituent of oil of cumin. Thymol rubbed with an equal weight of Menthol forms an oily liquid (see Menthol); with 3 parts of Thymol and 2 Chloral Hydrate, equal parts of Thymol and Camphor, and equal parts of Thymol and Carbolic Acid, similar liquefactions take place.

Thymol is a powerful antiseptic and antiputrefactive; its preparations have been much used, like carbolic acid, for surgical dressings.

Liquor Thymol.

One part of Thymol dissolved in 800 of warm water forms an agreeable antiseptic lotion and disinfectant for the sick room, suitable for spraying into the air or sprinkling on the floor.

Ophthalmic discs of Thymol contain $\frac{1}{1000}$ grain, combined with gelatine.

Volckmann's Thymol Solution.

Thymol 1, Alcohol 20, Glycerine 20. Dissolve and add to Water 1,000. Used as a spray and antiseptic lotion; does not produce eczema as carbolic lotion does. —Br. ii./79.xlviii.; Pr. xvii.203.

Spiritus Thymol.—*Dose*, 3 to 15 minims.

Thymol 1, Rectified Spirit, *q.s.* to 10; is convenient for dispensing, and for medicating the wool of antiseptic respirators.

Thymol Gauze, Carbasus Thymol.

Thymol 16, Spermaceti 500, Resin 50. Cotton gauze is impregnated with this mixture, liquefied by heat, so as to increase its weight 50 per cent. and contain 1 per cent. of Thymol.

Is used as an antiseptic dressing like carbolic gauze.

Pastillus Thymol is prepared, containing $\frac{1}{32}$ of a grain.—See p. 211.

Unguentum Thymol.

Is made 5 to 30 grains to the ounce of Vaseline, Petroleum Cerate, or Lard, the strength depending on the purpose for which it is applied. It is important the Thymol should be dissolved in the basis by the aid of heat, and not made by simple mixture, as particles of undissolved Thymol produce great irritation; 10 grains dissolved in an ounce of Vaseline applied to the skin keeps off gnats, mosquitoes, &c.

Vapor Thymol, T.H.

Thymol 6 grains, Rectified Spirit 1 drachm, Light Carbonate of Magnesium 3 grains, Water to 1 ounce. A teaspoonful to a pint of water at 140° F. for inhalation; useful in pharyngitis and laryngitis when associated with exanthemata.

References.

Physiological properties and use in diabetes and catarrh of the bladder in dose of ½ to 1½ grains.—Pr. xxii.52.

A powerful germicide and antiseptic. A cultivating liquid is rendered sterile by 1 part of Thymol in 2000. —B.M.J. i./78,2.

In skin diseases a stimulant ointment 5 to 20 grains to the ounce of vaseline or lard is useful in the later stage of eczema, and dry later stages of psoriasis, and as a parasiticide in those of a fungoid nature.—B.M.J. i./78,225; i./79,14; Br. i./78,199.

As an external antiseptic application to wounds.— M.T.G. i./78,227.

In ozæna, use as a gargle and nasal injection.—B.M.J. ii./79,692.

Chemical properties and uses.—P.J. i./78,391.

In burns, Lotion of Thymol 1 in 1000, and Thymolised Linseed Oil 1 in 100, applied with good results.—Pr. xxvii.268.

Thymol 1, Ether 10, and Spirit 5, or Thymol 1, Petroleum Oil 18; used as pigments in ringworm of the scalp, whilst acting as parasiticides they dissolve the fat, loosen the hairs, and thus help epilation. — B.M.J. i./82,901; L. i./81,241.

Thymol used successfully in over 150 cases of typhoid;

moderated production of heat, diminished tympanites, and checked diarrhœa.—B.M.J. i./89,430.

Thymol the best intestinal antiseptic.—Pr. xlv.134.

TRAGACANTHA.

Tragacanth (*Off.*).

Dose.—2 to 10 grains or more.

Glycerinum Tragacanthæ.

	T.H.	(*Off.*)
Tragacanth, in powder	120 grains	110 grains.
Glycerine	1 ounce	1 ounce.
Water	3 drachms	74 grains.

Mix and heat for 10 minutes in a water bath; or without heat (*Off.*). Is a useful pill excipient.—See p. 330.

Linimentum Exsiccans.

Tragacanth 5, Glycerine 2, Water 100. The fluid to be slowly added to the powder kept stirred in a large mortar. Quickly dries on skin, producing pleasant cooling sensation. May be medicated with any drug.—M.C. Nov. 1891,131; Ed. M.J. 1891,482.

Mucilago Tragacanthæ (*Off.*).

Dose.—1 drachm to 1 ounce, or more.

Improved formula suggested by the writer.—P.J. 1870,520.

Rectified Spirit 120 minims. Put in a 20 ounce dry bottle and add Tragacanth, in powder, 60 grains. Shake till evenly moistened and add Distilled Water 10 ounces. Shake again quickly to make a uniform mucilage. This keeps much better than mucilage of acacia—does not quickly turn sour, and is much more viscous. One part to 3 of aqueous fluid will suspend heavy insoluble powders.

Pulvis Tragacanthæ Compositus (*Off.*).

Tragacanth 1, Gum Acacia 1, Starch 1, and Sugar 3.

Dose.—10 to 60 grains. Is used as last preparation, 10 grains to 1 oz., specially useful for subnitrate of bismuth.

Traumaticin.—See p. 118.

TRIMETHYLAMINA.

Trimethylamine.—*Syn.* SECALIN; PROPYLAMINE(?)

Dose of the solution.—20 to 60 minims every 2 to 4 hours.

A solution of this compound ammonia, containing commercially from 10 to 20 per cent. of it dissolved in water was, under the incorrect name of Propylamine, first employed medicinally for the cure of articular rheumatism by Awenarius, of St. Petersburg, in 1854. He reported 250 cases, and affirmed it dissipated the fever and pain of the acute disease in a day or two. Medicinal Trimethylamine is obtained principally by distilling herring brine or stale fish with lime, and purifying the distillate. The commercial **Solution** (20 per cent.) is alkaline, colourless, has a strong, herring-brine odour, and is miscible with water. Its taste may be disguised by sweetened peppermint water or syrup of orange-peel.

Trimethylaminæ Hydrochloras.

Dose.—2 to 3 grains, 3 to 5 times a day.

Is obtained by neutralising the solution with hydrochloric acid and evaporating to crystallization. It is in deliquescent prismatic crystals, very soluble in water, has a slight fishy odour, and a pungent, saline taste; may be given in solution, but more agreeably in a pill with powdered althæa root and glycerine of tragacanth, and covered with sandarach solution.

In acute rheumatism, given with excellent effects, especially when begun early.—Pr. x.385; L. i./75,67.

Results of 32 hospital cases; it is a cardio-vascular sedative, limiting nutrition, and promoting expectoration, useful in acute attacks of rheumatism.—Pr xxiii.365.

Physiological experiments, it increases functions of the cord and accelerates the heart's action; poisonous doses kill by cardio-pulmonary asphyxia.—M.T.G. ii./74,240.

Employed in 14 cases of acute rheumatism with success, also of value as a liniment; 1 to 3 of glycerine for rheumatic pains.—M.R. 1875,25.

Trinitrin.—See Nitroglycerine, p. 287.

TRITICUM, U.S.

The underground stems (stolons) of *Agropyron repens*, Couch-grass, Dog-grass, or Quitch. Contains gummy and saccharine demulcent principles. Is diuretic and emollient; used in bladder and kidney affections.

Decoctum Tritici. *Dose.*—2 to 8 ounces.

1 to produce 20.

Extractum Tritici Liquidum, B.P.C.

Dose.—1 to 6 drachms.

Triticum, in No. 20 powder, 10 ounces, Rectified Spirit, Distilled Water, of each *q.s.*

Moisten the powder with 4 ounces of water, pack in a percolator, and pour boiling water upon it until exhausted. Evaporate the percolate to 15 ounces, add to it 5 ounces of rectified spirit, mix, and set aside for 48 hours. Then filter, and add to the filtrate a mixture of distilled water 3, and rectified spirit 1, *q.s.* to produce 1 pint.

TUBERCULIN.

Syns. KOCHIN, PARATALOID.

Imported from Germany in sealed bottles containing 1 and 5 c.c.

Dose.—One-thousandth of a cubic centimetre, increased to one-tenth, as follows:—

The maximum dose for undoubted Tuberculosis of any nature in adults is, for the first injection, 0·001 cubic centimetre. For children it is always advisable to use one-tenth to one-half the specified dose, according to age. At first the injections should only be made at intervals of at least one day. Afterwards the dose must be increased by not more than 0·001 c. c., until 0·005 c. c. is reached, then it may be increased by 0·002 c. c. After 0·01 c. c., according to the behaviour of the case, a more rapid increase is allowable, but doses of 0·1 c. c. should not, as a rule, be exceeded. As a diluent carbolic acid solution of a strength of 0·5 per cent. is usually employed, but a stronger carbolic solution may also be used. The dilutions are to be produced by first making a 10 per cent. solution—adding to 1 c. c. of the Tuberculin 9 c. c. of a half per cent. carbolic acid solution. In the same way a 1 per cent. solution can be prepared from the 10 per cent. No larger quantities of the solution should be prepared than are required for a few days' use. As soon as the solution becomes turbid it is unfit for further use. Before commencing the treatment the temperature of the patient must be taken—morning, noon, and night—for several days. An exact examination of the organs of the chest and larynx must be made. The expectoration must also be tested for tuberculous bacilli. In cases of diarrhœa the excrement must be tested. The injections are, if possible, to be made early in the day, and the temperature must be taken every three hours. If in consequence of the injection the temperature rises above 38° C. (100·4° F.), the subsequent doses must not be increased. The same dose or a less one must be given until the temperature throughout several days no longer rises above 38° C. (100·4° F.). Generally, the injections should not be repeated until the symptoms of the reaction have passed off. If the higher temperature continues for some time the next injection must not be made until the temperature does not exceed 38° C. (100·4° F.). In doubtful cases depending on diagnosis in very recent tuberculous affection—for example, in catarrh of the apex of one lung, tuberculosis of a joint, lupus of inconsiderable extent, &c., a dose of 0·005 c. c. should be commenced with, which, in case no reaction follows, may be increased to 0·01 c. c., and afterwards to 0·02 c. c. Special care is required in all cases of tuberculosis of the lungs or the larynx, extended lupus on the face (on account of brain symptoms, which not infrequently occur), tuberculosis of the bowels (perforation), tuberculosis of the brain, and also in complications of the heart, diabetes, &c. If hæmoptysis or other dangerous symptoms appear the use of the Tuberculin must be suspended. The examinations of the sputa are to be repeated about every week. It is also desirable that the weight of the patient should be ascertained at regular intervals. It is recommended that the syringe which is used be examined carefully as to its contents, and be disinfected before and after use with absolute alcohol. [The syringe employed contains 1 c. c., and is graduated in tenths.]—*Translation from Dr. A. Libbertz.*

Tuberculin is stated to be a glycerine extract of pure cultivations of tubercle bacilli, and is a remedy introduced by Koch in Germany, as a hypodermic injection for the cure of diseases depending on the growth of the tubercle bacillus, such as phthisis, acute miliary tuberculosis, and cutaneous lupus. This glycerine solution is said to contain only a fraction of one per cent. of the active principle. It appears to act by destroying the tissue invaded by the tuberculous growth, and is not definitely destructive to the tubercle bacilli. It has been suggested that there is an analogy between alcohol as a result of the growth of the yeast organism, and tuberculin as a product of the bacilli of tubercle.

While it has been shown that tuberculin has a powerful action on many tuberculous neoplasms, there have yet been only too obvious signs that it is a dangerous remedy, and one the sources of danger from which are not yet completely understood. The most obvious effects are a rapid rise of temperature, which seems to depend upon the existence of tuberculous disease for its intensity; a period of depression with chill and rigors is followed by high temperature and inflammatory fever, and subsequent defervescence. The tuberculin seems to act upon the tubercular lesions, and even partly to destroy them, or their surroundings, and subsequently there is a risk of further symptoms from blood poisoning dependent on this destruction.

In many instances the tuberculin has appeared to cause a very serious fall in the blood pressure, leading even to a fatal issue; in others the mischief has seemed to be due to a coagulating influence on the blood corpuscles, tending to blood stasis, congestion and hæmorrhage, especially in unhealthy areas adjacent to tubercular deposits; and again tuberculin does at times show an irritant effect on the white blood-corpuscles (leucocytes), causing inflammatory swellings. In cases where these evil results have been avoided there has been observed in a considerable proportion of suitable cases, a marked improvement resulting from a series of injections of tuberculin. The most favourable results have been noticed in cases of commencing phthisis pulmonalis, and in skin affections, especially in lupus of the face, but where phthisis has been far advanced evil results have been very frequent.

Communications on Tuberculin. — L. ii./90, 1085, 1118, 1120, 1205, 1239, 1257, 1290; i./91, 50, 168, 355, 651, 920; ii./91, 976; B.M.J. ii./90, 1193, 1321, 1372, 1434; i./91, 125, 127, 951; ii./92, 169.

Tuberculocidin Solution. Imported in sealed bottles containing 2, 5, 10, and 25 c.c.

To avoid the many and ill-understood risks of tuberculin, many attempts have been made to separate from this solution some active principle which it has been supposed to contain, mixed up with deleterious bye products. Klebs has succeeded in eliminating, by means of precipitation by platinic chloride, certain alkaloidal bodies, and finds an active principle remains in solution—a form of albumose, which can be subsequently precipitated, if desired, by alcohol. This he names Alexin or Tuberculocidin, and is, he believes, the real agent in the cure of tuberculous lesions. Tuberculin is said to contain 2½ per cent. of Tuberculocidin, but double the corresponding dose of the latter is given because of the elimination of the noxious elements of tuberculin. The solution as sold is stated to contain the same proportion of tuberculocidin that the original tuberculin contains. He injects this new remedy in doses of 0·002 c. c., increased to 0·1 c. c. and even to 0·15 c. c., daily, combined with 0·1 c. c. of a 1 in 10 solution of a cocaine salt, added to avoid the pain of the injections. Of 75 cases reported, 14 are classed as cured, 45 improved, 14 unimproved, and 2 died. In animals tuberculocidin seemed to be able to set up a partial immunity to tubercle: it never seemed to give rise to necrosis of tissue, nor dissemination of tubercle, as have been charged against tuberculin. Some temporary rise of temperature follows the use of tuberculocidin, as do sense of depression and a loss of weight in some cases.—L. ii./91,1109; i./92,1094; B.M.J.E. i./92,71.

URANII NITRAS.

Nitrate of Uranium. *Dose.*—½ to 5 grains.

Is in large lemon-yellow slightly efflorescent prismatic crystals. It is soluble in half its weight of water, and has an astringent styptic taste. Its solution, 10 grains to an ounce, is used as a throat spray, and internally it has been given with good effect in diabetes in dose of 1 to 5 grains.

Is liable to produce inflammation of the intestines and kidneys, sugar in urine, and failure of nervous power.—Th. Gaz. Oct. 1888,698.

URETHANE.

Syn. ETHYL CARBAMATE.

Dose.—10 to 60 grains.

Is in colourless prismatic crystals, easily soluble in water, tasting like nitre, inodorous; used as a hypnotic; produces normal sleep; heart is not affected. Especially suitable for children, cases of delirium tremens, and in acute mania.—L. ii./85,647; i./86,370; Pr. xxxv. 275, 328,417.

Proved more useful than chloral in tetanus.—L. i./86, 1112.

Is antagonistic to strychnine.—L. ii./86,31.

Insomnia of cardiac disease.—L. ii./85,1167.

Other recommendations.—L. i./86,370; B.M.J. i./86,164; ii./86,468,640; i./89,119.

Urethane retards digestion but not decomposition.—B.M.J. ii./91,115.

Euphorin. — *Syn.* PHENYL-URETHANE; CARBANILIC ETHER.

Dose.—3 to 6 grains, 3 to 5 times daily, preferably dissolved in Marsala or Malaga.

In white acicular crystals, slightly soluble in water, freely in spirit, with a faint aromatic odour and slightly acrid taste. Retards alcoholic fermentation and destroys pathogenic and other bacilli. Large doses weaken pulse and respiration and lower temperature, but do not affect heart and blood pressure.

An energetic antipyretic; fall of temperature accompanied by perspiration, but no other unpleasant symptoms. A useful analgesic in acute rheumatism, neuralgia, and nervous headache. As ointment or powder checked suppuration and removed bad odour in syphilitic ulcerations.—P.J. 1889,501; 1890,377; L. ii./91,29,33; B.M.J.E. ii./90,22; M.C. Feb. 1892,316.

Somnal.—A liquid preparation which is stated to be a combination of chloral alcoholate and urethane, has been employed in ½ drachm doses.—L. ii./89,1024; P.J. 1889,341; B.M.J. ii./89,1234. A safe and reliable hypnotic.—Pr. xlvi. 45; M.C April 1891,46; Th. Gaz. 1891,116; Ed.M.J. 1891,861; B.M.J.E. i./92,72.

Uralium.—*Syn.* Ural. A compound of chloral and urethane, in colourless shining lamellar crystals, has been recommended as a hypnotic in doses of 15 to 45 grains.—B.M.J. i./89,609; Th. Gaz. 1889,283,348, 688. Uncertain in effects, disagreeable to take, and often followed by nausea and disorders of digestion.—L. i./91, 46.

VERATRI VIRIDIS RHIZOMA.

Green Hellebore Rhizome (*Off.*).

Dose, in powder.—1 to 5 grains.

The dried rhizome and rootlets of *Veratrum viride*, imported from the United States. Its powder excites sneezing, and it contains the alkaloids Jervine, Veratrine, and Veratroidine. The rhizome of *V. album* and a Wine prepared from it were official in P.L. 1851. It possesses similar properties to *V. viride*. They are recommended as cardiac, arterial, and nervous sedatives. They are said not to be narcotic, but they lower the pulse, respirations, and temperature of the body. Acts on the heart as a powerful cardiac poison analogous to digitalis, but is much more rapid in its action; does not lower the temperature in health.—Pr. i./70,211; L.i./87,951. For puerperal eclampsia.—Th. Gaz.Oct.1887,675.

Tinctura Veratri Viridis. 1 in 5 of rectified spirit. *Dose.*—5 to 20 minims.

VERATRINA.

Veratrine (*Off.*).

Dose.—$\frac{1}{70}$ to $\frac{1}{16}$ grain, in a pill carefully triturated with sugar of milk and glycerine of tragacanth. An alkaloid, not quite pure, obtained from the seeds of *Schœnocaulon officinale*—Sabadilla or Cevadilla seeds; in white or greyish white pulverulent masses; it powerfully irritates the nostrils and excites sneezing; taste bitter and acrid. Nearly insoluble in water; soluble 1 in 11 rectified spirit; 1 in 6 ether; readily and almost completely soluble in diluted acids (a little resin is left). It is poisonous, but has been used as an antipyretic and arterial sedative in fevers and acute inflammations—resembles Aconitine in its general effects—irritates mucous membranes, causes sneezing, pricking and twitching of the skin, given in large doses it causes vomiting and purging; sometimes given for neuralgia, spasm, rheumatism and gout, but its principal use is externally in the form of ointment for neuralgic pains.—L. i./62,54.

Oleatum Veratrinæ, U.S.

Veratrine 2, Oleic Acid 100. Dissolve. Useful for neuralgia.

Unguentum Veratrinæ (*Off.*).

Veratrine 8 grains, Olive Oil 1 drachm; rub together. Hard Paraffin $\frac{1}{4}$ ounce, Soft Paraffin $\frac{3}{4}$ ounce; melt, and when cooling add the mixture of Veratrine and oil, and stir till cold. It excites a sensation of warmth and pricking, followed by coldness: if applied for some time, it will produce a red rash. Like aconitine ointment, than which it is much cheaper, it is useful for facial neuralgia. The ointment is often made stronger, 20 to 40 grains to the ounce of lard; it proves very useful in the treatment of sciatica, rubbed into the painful part for 20 to 30 minutes, 2 or 3 times a day, also useful in the neuralgic pain consequent on shingles.

In neuralgia and nervous diseases $\frac{1}{16}$ grain twice a day does good, also relieves palsy from cold.—L. i./48,501.

Physiological action.—M.T.G. ii./60,295, and R.

Alcoholic tremor, and that of sclerosis were relieved by $\frac{1}{130}$ grain doses four times a day.—L. ii./83, 118.

Internally and externally, recommended for pruritus. —M.T.G. i./84,509; Pr. xxxiii.61.

VERBASCUM THAPSUS.

Great Mullein.

This indigenous scrophulariaceous plant is much used as a household remedy on the Continent, and a sweetened decoction in milk, 1 in 5 of fresh leaves or about 1 in 40 of dried, is employed in Ireland in incipient phthisis for its weight increasing and curative power.—P.J. 1883, 309; B.M.J. ii./84,907,1013; L. i./85,1051.

Smoking the dried leaves controlled racking cough in a case of phthisis.—B.M.J. i./84,664.

Tinctura Verbasci.

Dose.—20 to 60 minims. 1 in 8 of proof spirit.

ZINCUM.

Zinc (*Off.*).

Calamina Præparata.—See p. 259.

Zinci Boras, **Borate of Zinc.**

In white amorphous powder; applied in the form of ointment is used for eczema.

Zinci Bromidum, **Bromide of Zinc, U.S.**

Dose.—3 to 10 grains, in water well diluted.

A white granular powder, very deliquescent, odourless, having a sharp saline and metallic taste, and a neutral reaction, very soluble in water and alcohol. As both bromides and zinc salts have been used with success in epilepsy, this salt has been given with the intent of combining the action of both.

Bromide of Zinc is borne badly, although Zinc unquestionably deserves some of the repute it has enjoyed as an anti-epileptic.—B.M.J. i./80,548.

Diminishes sensation and causes somnolence.—L. i./85,722.

Zinci Chloridum, **Chloride of Zinc** (*Off.*).
Syn. Butter of Zinc.

Collodium Zinci Chloridi.—See p. 163.

Guttæ Zinci Chloridi, R.O.H.

2 grains to Distilled Water 1 ounce.

Guttæ Zinci Chloridi cum Cocaina, R.O.H.

10 grains Hydrochlorate of Cocaine added to an ounce of the above.

Liquor Zinci Chloridi (*Off.*).

Four minims of this solution = 3 grains of solid Chloride of Zinc. On diluting this Liquor, or making a solution of the salt, with water, generally a white precipitate (Basic Oxychloride) is formed, which may be redissolved by adding a trace of hydrochloric acid.

Chloride of Zinc is a powerful caustic, antiseptic, and antiputrescent. The Liquor, or an impure solution known as Sir W. Burnett's Disinfecting Fluid, is a powerful deodorising antiseptic solution; it is odourless (but *very poisonous*) and specially useful for disinfecting the utensils, &c., in the sick-room of fever patients; it quickly permeates or disintegrates all organic matter *with which it comes in contact.*

Pasta Zinci Chloridi, Mid. H.; R.O.H.

Chloride of Zinc ...	...	16 ounces.
Opium, in Powder	...	1½ ounces.
Hydrochloric Acid	...	6 drachms.
Boiling Water ...	to	1 pint.

Macerate the Opium in 12 ounces of the water for 12 hours, add the acid, and filter, dissolve the Chloride of Zinc in the filtered liquid, and add water *q.s.* to produce 1 pint.

To above solution ...	...	1 ounce.
Add Wheaten Flour...	...	120 grains.

Mix and heat in a water bath until of a proper consistence. It is used as a caustic for cancerous sores, spread on lint, one or more layers being used. Weaker and firmer applications containing more flour are also used. Chloride of Zinc pounded with an equal weight of oil of theobroma is sometimes used, and may be formed into darts, spear or rod-shaped, for insertion into wounds or sores.

Darts, spearshaped, of Chloride of Zinc are also made, composed of this salt, with an equal weight of gutta-percha, for insertion into wounds and lancet incisions.

Solutio Zinci Chloridi Antiseptica.

Chloride of Zinc 40 grains, Distilled Water 1 ounce.

This solution produces such an antiseptic effect upon the tissues of a recent wound, that, as the result of a single application, the cut surface, though not presenting any visible slough, is rendered incapable of putrefaction for 2 or 3 days, notwithstanding its exposure to septic influence. It is particularly useful in tongue cases, after the removal of tumours of the jaws, or operations about the anus, and after amputations or excisions in parts affected with putrid sinuses; it is freely applied on a piece of lint to all textures including bones, and injected into sinuses.—B.M.J. ii./68,53.

Chloride of Zinc has the property of rendering a wound aseptic which has already become septic. An 8 per cent. solution is more energetic than a 5 per cent. solution of carbolic acid, and is useful in checking parenchymatous hæmorrhage after operations. — M.R. 1882,405.

One per cent. solution injected into ranula and ganglions is painless; the cysts harden.—Y.B. 1891,202.

Chloride of Zinc advocated as a remedy for tuberculosis by Lannelongue; a solution is injected deeply into the tissue surrounding tuberculous foci, causing sclerosis, and the activity of the bacillus is suspended, if not destroyed.—L. ii./91,94,133,203; i./92,1057; B.M.J. ii./91,86; B.M.J.E. ii./91,103; Pr. xlvii. 224; P.J. 1891,82.

Zinci Citras. *Dose.*—3 to 12 grains or more.

An amorphous white powder with a sharp metallic taste, not perfectly soluble in water, as it is a basic salt. Used for epilepsy.

Zinci Cyanidum, Cyanide of Zinc.

Dose.—$\frac{1}{10}$ to 1 grain.

An insoluble white powder, is of value in heart diseases; resembles digitalis in its action; relieves palpitation and irregularity of action.—L. ii./87,277; B.M.J. ii./87,421; Th. Gaz. Jan. 1889,71.

Possesses antiseptic properties, but not equal to the **Mercuro-Zinc Cyanide.**

See p. 219.—L. ii./89,943; B.M.J. ii./89,1028.

Zinci et Potassii Cyanidum. *Dose.*—$\frac{1}{10}$ to 1 grain.

Is a soluble cyanide, possessing all the properties of hydrocyanic acid in a stable form.

Zinci Lactas, Lactate of Zinc.

Dose.—3 to 30 grains in pill, increased.

Is in white crystalline crusts, with a sharp metallic taste, freely soluble in water but insoluble in alcohol. This Salt least deranges the stomach, and has been much used in France for epilepsy.

Zinci Oleatum.—See p. 297.

Zinci Oxidum, Oxide of Zinc (*Off.*).—See p. 259.

Cremor Zinci.—See p. 311.

Gelatum Zincum. Gelatine 2, Water 8, soak 12 hours then heat to dissolve, and add Oxide of Zinc 3, previously rubbed down with Glycerine 6. For use it is melted and applied with a brush to eczematous surfaces.—B.M.J. ii./87,449.

Lassar's Paste for Eczema. Oxide of Zinc 25, Starch 25, Salicylic Acid 2, Vaseline 50.

Pulvis Zinci et Hydrargyri Subchloridi, (Westminster Hosp). Oxide of Zinc, Calomel, Tannic Acid, and Starch, equal parts.

Plaster Mulls are spread containing **Oxide of Zinc** 10 grammes; also combined with **Ichthyol** 5 grammes, in $\frac{1}{5}$ square metre (see p. 421).

Salve Mulls contain **Oxide of Zinc** on one or both sides, 10 grammes, and **Oxide of Zinc** 10, combined with **Ichthyol** 2 grammes; also **Oxide of Zinc** 10 combined with **Red Oxide of Mercury** 5 grammes; in $\frac{1}{5}$ square metre (see p. 422).

Unguentum Metallorum, Ointment of Metals, G.H. Ointment of Acetate of Lead, Dilute Nitrate of Mercury Ointment, and Zinc Ointment, equal parts.

Zinci Permanganas.—See p. 267.

Notes of its use in 70 cases of urethritis; 10 cured, in 54 discharge greatly diminished; absence of irritation marked, 1 grain in 8 ounces of water used.—B.M.J. i./89,1458.

Zinci Phosphidum.—See p. 319.

Zinci Sulphas, Sulphate of Zinc (*Off.*).

Dose.—1 to 3 gr. tonic, 10 to 30 gr. emetic.

Lotio Rubra, U.C.H. Sulphate of Zinc 2 grains, Compound Tincture of Lavender 15 minims, Water to 1 ounce.

Red Lotion Pastils are prepared, coloured red, equivalent to 2 and 10 ounces respectively of the above lotion.

Lotio Sulphatum.

Sulphate of Zinc 30 to 40 grains, Alum 30 to 40 grains, Sulphate of Iron 20 grains, Sulphate of Copper 2 grains, Water 8 ounces.

Used as an injection for gleet.—B.M.J. i./89,1458.

Ophthalmic Discs contain $\frac{1}{250}$ grain **Sulphate of Zinc,** and $\frac{1}{250}$ grain each **Sulphate of Zinc and Opium,** respectively.

Points of Sulphate of Zinc are moulded for intra-uterine medication. **Points** of equal parts **Sul-**

phate of **Zinc and Alum**, and of **Sulphate of Copper** are also made.

Zinci Sulphis, Sulphite of Zinc.

A minutely crystalline white powder, soluble about 1 in 600 of water. Used as an antiseptic; produces no irritation, keeps organisms in check, and allows formation of healthy tissue.

Gauze impregnated with it has been used.—B.M.J. ii./90,1063; P.J. 1890,469; Pr. xlvi.461.

Zinci Sulphocarbolas.—See p. 14.

Zinci Sulpho-ichthyolas.—See p. 235.

Zinci Valerianas, Valerianate of Zinc (*Off.*).

Dose.—1 to 3 grains in a pill with mucilage of acacia.

The crystallized salt is preferred, and pills containing 3 grains in each are generally kept prepared.

Pilula Zinci Valerianatis, T.H.

Valerianate of Zinc 1 grain, Compound Pill of Asafœtida 2 grains. *Dose*, 1 or 2.

SECONDARY LIST OF DRUGS.

OF SOME WE HAVE HAD LITTLE OR NO EXPERIENCE, OTHERS ARE OLD REMEDIES RECENTLY RESUSCITATED.

Abies canadensis.—Hemlock Pitch Bark. A fluid extract is recommended for use as an astringent in leucorrhœa.—L. ii./86,888; and given internally as an astringent for diarrhœa, hæmoptysis, and night sweats.

Achyranthes aspera.—*Aghara*, or *Gas-karal-heba*, an Indian plant, possesses astringent and diuretic properties. Is used in dysentery, diarrhœa, menorrhagia, and dropsy, and applied locally to bites and stings of insects and reptiles. Ash contains a quantity of potash, and its Sanskrit name signifies *The Washerman.* Decoction, 1 in 20. *Dose*, 2 ounces. Liquid Extract, 1=1. *Dose*, 1 drachm.

Acidum cetraricum.—*Syn. Cetrarin.* *Dose*, ½ to 2 grains. A white micro-crystalline powder, obtained from Iceland moss (*Cetraria islandica*); taste bitter, soluble in alcohol, slightly so in water and ether. Recommended as a bitter tonic and laxative in constipation of chlorosis and anæmia.

Aconitum ferox.—Root, called *Bish* or *Bikh* in India, Nepaul Aconite by London druggists. Contains much Aconitine (Pseud-Aconitine of Flückiger, see p. 39) of a virulently poisonous nature. It comes from the Himalayas, probably mixed with the root of other species of aconite, and is in bolder roots than the aconite root imported from Germany. Therapeutically, its action resembles that of *A. napellus*, but is more diuretic and less antipyretic and diaphoretic. Internally, has relieved many cases of neuralgia and acute gout, and forms a valuable liniment for chilblains, &c.—B.M.J. ii./84,1276; L. i./85,236. Tincture, 1 in 8 of rectified spirit. *Dose*, 1 minim hourly.

Aconitum Fischeri.—Produces Japanese Aconite Root, of which much has at times been imported. It is very pungent, and yields the alkaloid Japaconitine. *A. japonicum*, Thunberg, with yellowish white flowers, has been identified as a variety of *A. Lycoctonum.* In the root of the European variety of the latter two alkaloids have been found, Lycaconitine and Myoctonine, both of which possess poisonous properties like Curare.—P.J. 1884,82,104; 1885,892. Botany of.—P.J. 1881, 1021,1041; Th. Gaz. June 1889,379.

Aconitum heterophyllum.—Root, known as *Atis* or *Atees* in India, is neither poisonous nor antipyretic, but is tonic, and possibly aphrodisiac in action. It contains a large quantity of starch. *Dose*, in powder, 5 to 20 grains; of tincture 1 in 8 of rectified spirit, 10 to 60 minims.

Adonis vernalis.—Leaves and stalks contain a glucoside Adonidin. They resemble Digitalis in their action, but are said not to be cumulative. *Dose*, in powder, 3 to 6 grains; of infusion 1 in 40, 4 drachms; of Adonidin, ¼ to ½ grain daily. Is a cardiac tonic and diuretic.—B.M.J. i./86,709. Does not rival digitalis.—L. i./86,223. Use in dilated rather than hypertrophied heart.—Pr. xxxix. 128; Y.B. 1888,13. Successful use; disappearance of throbbing headache, perspiration, and dyspnœa; sedative, but little diuretic, raises arterial tension. L. ii./88,1012. Relieves præcordial pain in mitral and aortic regurgitation; urine increased and coloured yellow.—L.i./89,596; ii./91,505.

Agar-Agar.—Japanese Isinglass. Is in membrane-like strips, consisting of the dried jelly of *Gelidium corneum*, a seaweed. Another variety comes from Borneo. Used for making jellies for invalids, &c., and as a cultivating nidus for germs; also for finishing calicoes, silks, &c.

Alstonia constricta.—Bark is used in Australia as a febrifuge. *Dose*, in powder, 5 grains. A crystalline alkaloid, Alstonine or Chlorogenine, has been isolated from it. Tincture, 1 in 10 proof spirit. *Dose*, ½ to 2 drachms.

Alstonia scholaris.—Dita Bark, from India and the Phillipine Islands. Contains a crystalline alkaloid, Ditaine, and the milky juice of the tree forms a substance resembling gutta percha. Tincture, 1 in 10 proof spirit. *Dose*, 1 to 2 drachms.

Antiaris toxicaria.—Upas tree of Java; milky juice of tree contains a principle, Antiarin, recommended in the treatment of heart disease.

Arbutin.—A crystallized glucoside obtained from the leaves of *Arctostaphylos Uva Ursi* and other ericaceous plants. It is given for chronic cystitis and vesical catarrh, in dose of 15 to 60 grains with sugar; is not poisonous. It is split up in the system, hydroquinone being produced.—M.R. 1885,104; L. ii./86,184. Summary of German results.—Th. Gaz. 1887, 270.

Areca.—Betel Nut. B. P. Add. 1874.—The seed of *Areca Catechu*. *Dose*, for adults, in powder, 1 to 4 drachms. Is astringent, and is used as a vermifuge, especially for dogs; is also used as a masticatory and added to dentifrices. Contains several alkaloids, the most active of which is **Arecoline**, a liquid which forms a white crystalline **hydrobromate**. Its physiological action is allied to both that of pelletierine and that of muscarine or pilocarpine. Taken internally, causes vomiting and diarrhœa.—B.M.J.E. ii./90,15 (*ex* Therapeutische Monatshefte, 1890, p. 291.)

Asclepias cornuti (A. SYRIACA).—Is diaphoretic and diuretic. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Asclepias incarnata.—White Indian Hemp rhizome. Is a speedy, potent, and reliable diuretic.—Pr. xxiii, 141. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Asclepias tuberosa.—Pleurisy Root. Is expectorant and diuretic. Tincture, 1 in 10. *Dose*, 5 to 40 minims.

Blatta orientalis.—Cockroach. Is an old Russian remedy for dropsy lately brought into notice. *Dose*, 2 to 8 grains, in powder.

Boldoa fragrans (*Peumus Boldus*).—The leaves, from Chili and Bolivia, resemble those of Sweet Gale (*Myrica Gale*), but are more aromatic. Used in dyspepsia, liver affections, rheumatism, and as a diuretic for atony of the bladder. Boldin, glucoside, has hypnotic properties, and said also to have local anæsthetic properties like cocaine. Tincture of Boldo, 1 in 5 rectified spirit. *Dose*, 10 to 20 minims.—B.M.J. ii./85,1134; i./88,918.

Bonduc Seeds.—From *Cæsalpinia Bonducella* are grey, and *C. Bonduc* are yellowish. In Pharmacopœia of India as a bitter tonic and antiperiodic. *Dose*, in powder, 10 to 15 grains. The powder, deprived of shell, mixed with an equal quantity of black pepper, forms Pulvis Bonducellæ Compositus. *Dose*, 15 to 30 grains.—L. ii./86,324.

Cactus Grandiflorus (*Night-blooming Cereus*).—Useful in some asthenic conditions of heart, and dropsy.—B.M.J. i./90, 70; Y.B. 1890,9. Liquid Extract, 1=1. *Dose*, 1 to 10 minims. Tincture, fresh flowers and young stems 1, alcohol 5. *Dose*, 2 to 10, increased to 30, minims. A cardiac tonic, free from cumulative or narcotic action, most valuable in functional disorders, palpitation in dyspepsia and Graves' disease, and the milder forms of angina. Cardiac weakness following excessive alcohol or morphine taking, well adapted for its use.—Pr.xlvii. 141,223,266; L. ii./91,1274; B.M.J.E. ii./91,157; M.C. Nov. 1891,110; P.J. 1891,347.

Chekan.—The leaves of *Myrtus Chekan.* Are aromatic and expectorant; are used in chronic coughs and bronchitis. *Dose*, of fluid extract, ½ to 3 drachms. Chemical research on.—Th. Gaz. 1888, 308.

Collinsonia Canadensis.—The root of this, commonly known as stone-root or knob-root in America, has been employed in gravel and other urinary affections. Is an antispasmodic in flatulent, infantile, and biliary colic, and locally in lax conditions of the uvula, pharynx, and vocal cords. Tincture, 1 in 10 of proof spirit. *Dose*, ½ to 2 drachms. Liquid Extract, 1 in 1. *Dose*, 15 minims to 1 drachm. Suppositories containing 20 to 30 grains of the powder are also used. —B.M.J. ii./87,712. Gastric catarrh.—L. ii./86,31. Cancer of stomach.—B.M.J. i./87,638. Cystitis.—L. i./88,868.

Cornus Florida, U. S.—Inner Bark of Dogwood Root. It is bitter, tonic, and stomachic. *Dose*, in powder, 20 to 60 grains. A fluid extract is made, 1=1 of bark.

Crotalus.—A solution of the pure venom of the rattlesnake, *Crotalus horridus*, 1 in 1,000, 3 drops every three hours. Used in malignant scarlet fever.—L. ii./83,54; P.J. 1883,62.

Drosera rotundifolia.—The leaves of Sundew. Have been recommended for chronic bronchitis, asthma, whooping-cough, and to ease the cough of phthisis. Tincture, 1 in 10 of proof spirit. *Dose*, 5 to 10 minims.

Eugenol.—*Syn.* Eugenic Acid.—A colourless oily liquid, darkening on exposure, obtained as an oxidation product of oil of cloves. It has a strong clove odour, and is a powerful antiseptic and antiputrescent. Has been employed by dentists. Caused reduced sensibility of mucous membrane, but not complete anæsthesia. Useful with lanoline in eczema.—Th. Gaz. May 1889,344.

Eupatorium perfoliatum, U.S.—Boneset, Thoroughwort. The leaves and flowering tops contain a volatile oil and a glucoside, Eupatorin; is tonic and diaphoretic. Warm infusion is used like chamomile tea as an emetic. Given for ague, dyspepsia, and debility. In large doses is cathartic, and has been given to expel tænia. *Dose*, in powder, 10 to 60 grains; or 10 to 60 minims of fluid extract, U.S.

Galium Aparine.—The plant Cleavers or Goose Grass. Is acid, astringent, and diuretic. Has been used in dropsy, jaundice, scrofulous scaly eruptions, epilepsy, and obesity; and, externally, a poultice of the fresh plant beaten into a pulp and the juice have been applied to promote healthy granulation in cancerous sores, and as a styptic for bleeding wounds. Succus Galii, *dose*, 1 to 2 drachms; and Extractum Galii, 5 to 20 grains. —B.M.J. i./83,1173; ii./83,14. For psoriasis.—B.M.J. i./86, 588.

Geoffroya inermis (*Andira inermis*).—Bark of Cabbage Tree, Worm-bark Tree of tropical America. Is bitter, astringent, febrifuge, and vermifuge in dose of 20 to 30 grains; larger doses are emetic, purgative, and narcotic.

Geranium maculatum, U.S.—Cranesbill root, is a powerful astringent; contains about 16 per cent. of tannin; used in diarrhœa, and locally in relaxed conditions of the mucous membranes. Geranin, a dried extract, is given in dose of 1 to 5 grains. Fluid Extract, U.S., *Dose*, 15 to 60 minims.

Gouania domingensis. — Jamaica Chew-stick. Root contains Saponin; in powder is used as a dentifrice and to make mouth lotions; root stem also used as a tooth brush in U.S.A., and chewed after meals as a sialogogue to assist digestion.

Hæmol and Hæmogallol.—These two products of the reduction of the colouring matter of the blood are used in Germany for chlorosis, and are said to be more easily converted into blood colouring matter than any ferruginous preparation. The former, a blackish powder, is obtained by the action of zinc. and the latter, a reddish brown powder, by means of pyrogallol. *Dose* of each, 2 to 8 grains in cachet, thrice daily.—P.J. 1892,813.

Halviva.—KREAT-HALVIVA. *Dose*, 5 to 30 minims. A liquid sold as a nostrum, prepared from Kreat, or Kariyat, an Indian plant. This name is in India applied to two plants, *Ophelia Chirata* and *Andrographis paniculata*. Has been recommended as a tonic and substitute for quinine, in malaria and debility.—B.M.J. i./91,520,669,1004; P.J. 1891, 837,1120; C. and D. i./91,614.

Henna.—The dried leaves powdered of *Lawsonia inermis*, *L. spinosa*, and *L. alba*. Are used in Egypt for toilet purposes as a cosmetic dye.

Hoang-Nan.—The bark of *Strychnos gautheriana*, indigenous to Tonkin, has been recommended for hydrophobia, also for leprosy and other skin diseases. It contains strychnine and brucine.—P.J. 1877,986,361; 1889,425; L. i./89,701.

Hydrocotyle asiatica.—This umbelliferous herb is used in India for specific skin diseases, scaly eruptions, and ozæna, as an alterative and diuretic, in 4 to 10 grain doses internally; is added to lard as an ointment, also to poultices, and used as snuff in ozæna. Contains 15 per cent. of a volatile oil named Vellarine.—L. i./85,444.

Hydroxylamine is formed by the action of nascent hydrogen on nitric acid. It is only known in aqueous solution, odourless and colourless. Its strong reducing properties suggested its use in dermatology instead of chrysarobin. It is a powerful poison to low organic forms. Does not stain the skin. Large doses produce hæmaturia on account of destroying the red blood-corpuscles. The HYDROCHLORATE is in large odourless and colourless hygroscopic crystals, with an acid taste and reaction, freely soluble in water. Solution 1 in 1,000 of equal parts of glycerine and spirit, successful in lupus, ringworm, and parasitic sycosis. Strongly irritant.—**B.M.J. ii./88, 1123; L. i./89,287; P.J. 1888,425; C.&D. ii./88,99; Th. Gaz.** 1889,571,614,630; **B.M.J.** [ii./89,1297; **Y.B.** 1890,304. Has a similar action to amyl nitrite in lowering blood-pressure.—*Pr.* xlvii.259. Useful in psoriasis and tinea tonsurans; better applied as ointment with lanoline.—**B.M.J.** i./90,1207; Th. Gaz. 1890,744.

Hymenodictyon excelsum.—Inner bark is in Indian Pharmacopœia. Is astringent and bitter like cinchona, and is given as a tonic and febrifuge. Contains the alkaloid Hymenodictyonine, and Æsculin.—**P.J.** 1883,311; 1884,195.

Jacaranda lancifoliata.—A Columbian plant. The fluid extract of this, known as Salud, has been recommended for syphilis, gonorrhœa, and gleet. *J. procera*, *J. tomentosa*, and other species are known by the name of Caroba in Brazil, and are said to have similar properties.—**P.J.** 1875,905; **B.M.J.** i./85,327.

Jatropha Curcas (*Curcas purgans*).—Physic Nut, in Pharmacopœia of India. Yields about 30 per cent. of a fixed purgative oil, which has an almond-like taste; 12 to 15 drops have the same effect as an ounce of castor oil; externally, it is a stimulant, and in the East is applied locally to increase the secretion of milk. Capsules, 10 minims in each.

Kava-Kava.—Root of *Piper methysticum*, imported from the Polynesian Islands. Is used by natives as a sialogogue and to make a fermented drink. Contains an essential oil, two resins, and about 1 per cent. of a neutral crystalline principle, Kavalin or Methysticin, allied to Piperine. Is a bitter tonic, with agreeable taste, stimulates the nervous system, and is diuretic. Has been found useful for gonorrhœa and gout. Extract, hydro-alcoholic. *Dose*, 5 to 10 grains. Liquid Extract, 1 in 1, of 3 parts Spirit and 1 part water. *Dose*, 15 to 60 minims. Pill = 3 grains extract. *Dose*, 1 to 3 or 4. Infusion, 1 in 320. *Dose*, ½ pint.—**B.M.J.** i./86,221; **P.J.** 1886,918,1006,149,608. Though more palatable than, is not equal to copaiba or santal oil.—L. ii./87,604. Is a local anæsthetic to tongue and eye. —**B.M.J.** i./87,635. Useful in gonorrhœa and cystitis.—**B.M.J.E.** i./91,183.

Koromiko.—These herbs, *Veronica salicifolia* and *V. parviflora*, imported from New Zealand, are used there and in China as a remedy for chronic dysentery and diarrhœa. Tincture, 1 in 5 of proof spirit. *Dose*, ½ to 1 drachm.

Lachnanthes tinctoria.—Spirit Weed, Red Root. A tincture = 1 in 10 of proof spirit of this United States plant; is used to check the cough in phthisis. *Dose*, 1 to 10 minims.

Lycoperdon giganteum.—Puff Ball. This forms a soft and comfortable surgical dressing. The dusty powder is a powerful hæmostatic.—Whitla.

Maidis Stigmata. —*Syn.* Corn Silk. The thread-like stigmata of nearly ripe Maize fruit. Are demulcent and diuretic. Used in acute and chronic affections of the kidneys and bladder, *e.g.*, catarrh of, cystitis, nocturnal incontinence of urine, and cardiac dropsy. Useful in renal catarrh and colic.—M.R. 1885,103. Fluid extract, *dose*, 1 drachm; of extract, 20 grains.—L. ii./85,799; ii./87,605.

Maidis Ustilago.—Maize Ergot, Corn Ergot. Is used in parturition in place of ergot. Is said to increase the force without increasing the duration of uterine contractions. *Dose*, 15 to 60 grains, Fluid Extract, ½ to 2 drachms.—Pr. xl.215; Th. Gaz. Dec. 1887,844.

Manaca.—Root of *Franciscea uniflora*, from Brazil and equatorial America. Is purgative and diuretic; much recommended for syphilis and rheumatism.

Mandragorine.—A crystallised alkaloid, obtained from Mandrake root, *Mandragora officinalis*. A solution of the sulphate is a mydriatic. The plant itself was, by the ancients, considered a narcotic.—P.J. 1885,1067; 1888,268; 1890,810; L. ii./85,87; B.M.J. i./90,620.

Myrtol.—A constituent of myrtle oil; has been recommended in putrid affections of lungs and air passages. Expectoration lessened, but no effect on bacilli. *Dose*, 2 to 5 minims in capsules.—B.M.J. i./89,336; P.J. 1889,782; Y.B. 1890,307.

Pharbitis Nil.—Seeds.—*Syn.* Kaladana in Pharmacopœia of India. Are official to produce Pharbitisin, a resin allied to Resin of Jalap, given in dose of 2 to 8 grains as a purgative.

Phellandrium aquaticum.—Fruit of Water-Fennel. Is a stimulant, diaphoretic, and expectorant; useful in bronchitis and phthisis.

Phloridzin.—*Syn.* Phlorizin, a glucoside from the bark of stem and root of the apple, pear, plum, and cherry, is in minute pinkish-white crystals, sparingly soluble in water, readily so in alcohol and ether, and possesses the peculiar property of inducing artificial diabetes (glycosuria) in animals to which it is administered.—C. & D. ii./89,85; L. ii./89,902.

Pichi.—Leaves and twigs of *Fabiana imbricata*; useful in gravel and some kidney diseases. Liquid Extract. *Dose*, 10 to 40 minims.

Quillaia saponaria.—The bark of this (soap-bark) contains quillaic acid and sapotoxin, closely allied to saponin. Has a sweetish but acrid after-taste, and possesses emulsifying properties, causing frothing in water in which it has been macerated. Soap-bark has been used as an expectorant in bronchitis, contra-indicated in inflammation of the intestines or stomach, or ulcerated condition of the mucous membrane. Tincture, B.P.C., 1 in 10 of Rectified Spirit, is used in making tar preparations. See p. 124. *Dose*, 20 to 60 minims.—P.J. 1886,310. Better made with a weaker spirit for internal use.—L. ii./87,1287. Bark dust useful, sniffed every few minutes, for catarrhal rhinitis.—L. ii./88,437.

Randia dumetorum.—An Indian shrub. Fruit possesses emetic, calmative, and antispasmodic properties; has been used as a substitute for ipecacuanha. Tincture, 1 in 5 of Spirit of Ether. *Dose*, 15 to 60 minims.—L. i./91,656; Pr. xlvii.141.

Rubus Chamæmorus.—Cloudberry, Norwegian blackberry, marsh raspberry, or dwarf mulberry. The leaves of this are diuretic, useful in nephritis, cirrhosis of liver, cardiac affections, cancer of stomach, chloro-anæmia with œdema, hysterical epilepsy and palpitation of the heart. Infusion, 1 in 12, *dose*, ¼ ounce; fluid extract, *dose*, ½ to 1 drachm. Fruit is antiscorbutic and used for hæmoptysis.—Th. Gaz. 1890,54.

Safrol.—The principal constituent of sassafras oil, but now obtained from camphor oil; has been used as an anodyne in subacute rheumatism. *Dose*, 20 to 30 minims.

Salix nigra.—The root of this, the black or pussy willow, is used in North America as a sexual sedative in gonorrhœa and spermatorrhœa. Liquid extract, 1 in 1. *Dose*, ½ to 1 drachm. Relieves ovarian pain and nocturnal emissions.—B.M.J. ii./87, 237; L. i./88,869.

Sapo Resinæ, G.H.—Resin 1800 grains, Caustic Soda 300 grains, Water 1 pint. Boil gently for 2 hours, cool, separate the precipitated soap, squeeze it, and then dry it on a water bath.—P.J. 1890,751.

Sapo Viridis.—*Syn.* Sapo Kalinus (P.G.III.). The potash or soft soap in German commerce, is generally made with linseed oil, has a pale brownish-green colour, and is a useful detergent in some skin diseases.

Sarracenia purpurea.—Pitcher Plant. This herb is considered tonic and diuretic; at one time used as a specific for small-pox.

Scillipicrin.—A principle obtained from the bulb of *Scilla maritima*; is an amorphous yellowish-white powder, very hygroscopic,—suitable for hypodermic injection; acts powerfully on the heart, retarding its action and in toxic doses—$\frac{1}{80}$ to $\frac{1}{30}$ grain in the frog—arrests the heart in diastole.—B.M.J. ii./79,498; P.J. 1879,1038. *Dose.*—?

Scillitoxin.—*Syn.* SCILLAIN. A principle from the bulb of *Scilla maritima*; is an amorphous cinnamon-brown powder, insoluble in water and ether; soluble in alcohol, has a bitter, burning taste; also soluble in aqueous alkaline solutions. The powder is very irritating to the nostrils. It arrests the action of the frog's heart in systole, and is about 8 times as strong a poison as scillipicrin.—B.M.J. ii./79,498; P.J. 1879,1038.

Scopola Carniolica (*Scopolina atropoides*).—The root of this, an Austrian plant, has been imported as a substitute for belladonna. It contains the alkaloid hyoscyamine in comparatively large quantities, and almost free from admixture with other mydriatic alkaloids. Given internally, it is said to cause less dryness of the throat than belladonna, and is probably more nearly allied to hyoscyamus in its action. Liniment, Ointment, and Plaster, corresponding to those of Belladonna are prepared, also Extract, *dose*, ⅛ to ¼ grain; Liquid Extract, *dose*, 1 to 5 minims, and Tincture, *dose*, 5 to 30 minims.—P.J. 1889,461,464,466,468,471,500; L. ii./89,1297;

B.M.J. i./90,92. Scopolamine, another mydriatic alkaloid, has been obtained from this root.—See pp. 69, 231.

Scopola japonica.—The root of this, known in commerce as Japanese Belladonna, yields an alkaloid, Scopoline, which is a mydriatic, and produces as much dilatation as atropine in half the time, and effects last longer.—L. ii./84,558; B.M.J. i./86,1113. This Scopoline proved to be a mixture of atropine, hyoscine (?) and hyoscyamine.—P.J. 1889,461.

Scutellarin.—The dried extract of *Scutellaria lateriflora*—mad-dog skull-cap. Is of a greenish-brown colour, and is given as a nervous stimulant. Suggested use in cases of epilepsy, chorea, and insomnia; relieved severe hiccough.—B.M.J. ii./85,1158. *Dose*, 1 to 5 grains in a pill.

Sethia acuminata.—Is a vermifuge, especially for round worm; useful for children, as its taste is not disagreeable. Fluid extract, 2 = 1 of leaves. *Dose*, 20 to 40 minims.—P.J. 1882,818. Has also narcotic properties.

Siegesbeckia orientalis.—This herb is said to be useful, combined with iodide of potassium, in syphilis and gout. The juice is healing applied to gangrenous sores. Recommended as a topical application for tinea and thrush.—B.M.J. i./87, 1304; ii./87,508; P.J. 1886, 1047.

Simulo.—Fruit of *Capparis coriacea*, from Peru. Its powder, 45 grammes in 500 grammes of sweet wine, of which a wineglassful was taken every night and morning, cured a case (Dr. Larrea, who narrates it) of epilepsy after he had 14 fits, preceded by a distinct aura. He has used it much in nervous diseases, hysteria, and epilepsy. — L. i./85,722; B.M.J. i./85,1184; P.J. 1885,890. Cases of epilepsy improved by its use.—L. i./88,617. For chorea.—Th. Gaz. 1890,692.

Soya Hispida.—*Syn.* Dolichos Soja.—The seeds of the soy bean are recommended as food, made into a kind of bread, for diabetic patients. They contain only 6·4 per cent. of starch, 36·7 per cent. of proteid matter, and 17 per cent. of fat. Slightly purgative at first, but toleration soon established.—P.J. 1889,118; Th. Gaz. Jan. 1889,44.

Tayuya.—"Leroy vegetal." Root of *Trianosperma ficifolia*, a Brazilian plant allied to *Bryonia alba*. Is a drastic purgative and emetic, excitant to the lymphatic system, and an active depurative. Tincture, 1 in 4 proof spirit. *Dose*, 6 to 15 minims, increased. Is used for tertiary syphilis and dropsy. Active principle, Tayuyina (Trianospermina of Peckolt), is a drastic purgative. —P.J. 1880,667; is ascribed to *Dermophylla pendatica*.—L. ii./81,891.

Tonga.—A specialty for neuralgia. Dose, 1 to 2 drachms. A liquid prepared from *Epipremnum mirabile* and *Premna Taitensis*.—P.J. 1880,770,849,889; L. i./80,360,445,835; i./81,84; B.M.J. ii./81,171.

The writer has prepared from *Arum maculatum* **Succus Ari.** *Dose.*—1 drachm. This, a medical friend informed him, relieved an obstinate case of neuralgia in which Tonga was a useful but expensive medicine.—B.M.J. i./81,908.

Ulexine.—An alkaloid in yellowish white crystals, soluble in water, obtained from *Ulex europæus*, or common furze. Is a powerful diuretic. It forms a hydrobromate freely soluble in water. *Dose*, of each, $\frac{1}{50}$ to $\frac{1}{8}$ grain. Requires caution.—P.J. 1886,229. Benumbs the tongue, produces clonic spasm and palsy in frogs.—Prov. M.J. 1886,422. Physiological properties as an antidote to strychnine.—Th. Gaz. Oct. 1887,690; L. ii./86,645; L. i./88,241; P.J. 1889,1029.

Urechites suberecta.—An apocynaceous plant from the West Indies, yields a milky juice used as an Obeah poison. Active principles, Urechitin and Urechitoxin. Is diaphoretic, diuretic, and purgative; a cardiac tonic, but dangerous on account of cumulative action.—B.M.J. i./92,1295.

Vanillin.—*Syn.* VANILLIC ACID. Occurs in white acicular crystals, having a strong odour if obtained from vanilla; but is also obtained as a derivative of coniferine, a glucoside obtained from coniferous woods. Soluble in alcohol, ether, and oils, sparingly so in water. Vanillin 1, phloroglucin 2, in absolute alcohol 30, forms Günsberg's test for mineral acids, with which one drop gives a fine red colour, red crystals being precipitated; organic acids do not affect the test.—B.M.J. i./88,807; Th. Gaz. 1888,171. On lower animals is a convulsive agent causing epileptiform movements, but on man, 10 or 15 grammes given without noxious results. Use suggested in atonic dyspepsia as an excito-motor stimulant.—P.J. 1886,83.

Viburnum prunifolium, U.S.—Bark of Black Haws. Is an astringent and bitter nervine tonic; has a good repute for preventing abortion, and is used for dysmenorrhœa. Extract, *dose*, 2 to 10 grains. Liquid Extract, 1=1 of bark. *Dose*, 10 to 30 minims.—L. ii./85,36; Pr. xxxiv.50. Abortion threatened, pain and bleeding were checked, fifteen cases.—L. ii./86,888; see also B.M.J. i./86,391,489; ii./87,1153; Pr. xl.54; L. ii./88,133. A test for labour pains.—Th. Gaz. June 1889,385. The bark of *V. opulus* (Cramp Bark) is also used in the States as an anti-spasmodic, and for relaxing cramp of all kinds; in hysteria, during pregnancy. A combination with extract of malt is sold as Malto-Viburnin. *Dose*, 1 to 4 drachms. Prolonged hæmorrhage threatening abortion cured by frequent drachm doses of liquid extract.—B.M.J. ii./90,86.

Vinca major.—Great Periwinkle Herb. Is astringent, and has been used for menorrhagia. Infusion, 1 in 10. *Dose*, a wineglassful frequently. Liquid extract, 1½ drachms.

Viola tricolor, U.S.—Flowering plant of Wild Pansy. Is supposed to contain a little Violin, found in *Viola odorata*, and resembling Emetin in action. Is used externally as an ointment, and a poultice. *Dose*, 10 to 60 grains in infusion.

Viscum album.—Mistletoe. The berries are said to be emetic and purgative. The plant contains Viscin, a kind of birdlime. Has been used for epilepsy and hysteria. *Dose*, in powder, 10 to 60 grains.

Yerba Santa (*Eriodictyon glutinosum* or *E. californicum*).—Leaves are aromatic and sweetish, often agglutinated together; they are stimulant to mucous membranes of the bronchial tubes. Used for bronchitis, phthisis, and other catarrhal affections. Fluid extract, 10 to 40 minims. Is sold combined with extract of malt, as Malto-Yerbine. *Dose*, 1 to 4 drachms. Composition and preparations.—P.J. 1890,540.

APPENDIX.

I.

ANTISEPTIC APPLICATIONS, SURGICAL DRESSINGS, &c.

Anæsthetics.

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A. C. E. Mixture (Alcohol, Chloroform, and Ether). For Inhalation...	112
Amyl Nitrite	56
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Carbon Tetrachloride	103
Chloroform, pure, Sp. Gr. 1·497, from Acetone	103
„ „ „ „ Methylated Spirit	
„ „ „ „ Rectified Spirit	
Cocaine, pure, soluble in fats and oils ...	143
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Ether, Absolute, from Methylated Spirit, Sp. Gr. 0·717. For local Anæsthesia	43
Ether, Rect., from Methylated Spirit, washed and purified, Sp. Gr. 0·720. For Inhalation	44
Ether, B.P., from pure Spirit. Sp. Gr. 0·735	43
Ether, Pure „ „ „ Sp. Gr. 0·720	43
„ Methylated, commercial. Sp. Gr. 0·730	44
„ „ photographic „ 0·725	44
Ethidene Dichloride	186
Ethyl Bromide	46
„ Chloride, in 10 gramme tubes	47
„ Iodide...	48
Methyl Chloride, compressed, in cylinders. For local Anæsthesia	272
Methylene ...	274
Pental, in tins containing 10 × 10 gramme bottles ...	59

Bandages.

Alembroth Gauze, 6 yd. rolls, 5 in. wide	223
Buttercloth, 6 yd. rolls, 2 in., 2½ in., 3 in., 4 in., and 6 in.	
Calico, unbleached or white, 6 yd. rolls, 1 in., 2 in., 2½ in., 3 in., 4 in., 6 in. wide	
Carbolic Gauze, 6 yd. rolls, 5 in. ...	8
Crinoline, for Silicating, 6 yd. rolls, 3 in.	
Domette (flannel), 6 yd. rolls, 3 in.	
Elastic, Circular Stocking, 2½ in., 3 in., and 3½ in. ...	
Elastic, India Rubber Webbing, 1 in., 2 in., and 3 in.	
Eucalyptus Gauze, 6 yd. rolls, 5 in.	189
Muslin, Check, for Plaster of Paris, 3 in.	
Selvedge, or Fast Edge, 6 yd. rolls, 2 in., 2½ in., 3 in., and 3½ in.	

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Bandages (*continued*).	
Selvedge, Unbleached, 6 yd. rolls, 2 in.	
Silicated, 6 yd. rolls, 3 in., 4 in., and 6 in.	368
T, or Perineal	
Triangular, Esmarch's	
White Absorbent, Open Wove, 6 yd. rolls, 2 in., 2½ in., 3 in., 4 in., and 6 in.	
"First Help for Wounds"	
Buttercloth	
Catgut, Carbolised, in bottles with Carbolic Oil, Nos. 0, 1, 2, and 3	9
,, Chromic, Nos. 0, 1, 2, and 3	17
Chartazinc, in sheets	297
Cocaine, Pure, soluble in fats and oils	143
,, Hydrochlorate, pure cryst.	146
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Drainage Tubes, India Rubber, perforated, of various dimensions	
Gamgee's Tissue.	
Gauze, Alembroth, 1 per cent., 6 yd. pieces	223
,, ,, and Cotton Wool Tissue, 2 per cent., 1 lb. packages	223
,, Carbolic, 6 yd. pieces	8
,, Eucalyptus, 6 yd. pieces	189
,, Eucalembroth, 6 yd. pieces	223
,, Iodoform, 20 per cent., 6 yd. pieces	241
,, Mercuro-Zinc Cyanide, 6 yd. and 12 yd. pieces	219
,, Thymol, 6 yd. pieces	395
,, White Absorbent, plain	
Glass, Soluble, or Water	368
Gutta Percha Tissue	
Irrigator Douches for wound dressing, with and without taps	
Jaconet, Pink Macintosh or Hat Lining	
Jute, from bark of *Corchorus sp. var.*, about 1 lb. rolls	
,, Salicylic, in ½ lb. packages	
Lint, Absorbent, finest, 1 lb. packages, 8 oz., 4 oz., 2 oz., and 1 oz. boxes	
,, ,, Surgeon's	
,, Boric, 1 lb. packages, 8 oz., 4 oz., and 2 oz. boxes	4
,, Iodoform, 10 per cent.	241
,, Marine, 1 lb. tins	337
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,, Red	408
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Macintosh, Waterproof Sheeting, 44 in. wide	

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,, ,, compressed into sheets, thin ...	371
,, ,, ,, ,, ,, thick ...	371
,, ,, Sublimated	371
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Nainsook Muslin, for Ointments	
Oil, Carbolised, 1 in 10, or 20	9
,, ,, non-congealing, for Catheters	9
,, Salol, ,, ,, ,, ...	32
Oiled Silk	-
,, Non-adhesive (French)	
,, Brown	
Oiled Silk Protective	10
Ovariotomy Aprons	
Pads, Obstetric, Alembroth	
Pastils, Red Lotion	
,, Sublimate	
Piline, Impermeable	
,, Spongio	
Plasters, Spread.	
Adhesive, on unglazed Calico, yd. rolls	
,, ,, Union	
,, ,, Dimity	
,, ,, Tapes, unglazed Calico, Holland, Silk, and Waterproof	
India Rubber Adhesive, 7 in. wide, yd. rolls ...	
,, ,, ,, ,, ,, 5 yd. rolls ...	
,, ,, ,, Porous, yd. rolls	
,, ,, ,, Twilled Linen, yd. rolls ...	
,, ,, ,, Tapes, ½ in., 1 in., 1½ in., 2 in., and 3 in.	
Isinglass on Muslin, 7 in. wide, yd. rolls	
,, ,, ,, 11 in. wide, 5 yd. rolls	
,, ,, Silk, Flesh, White, and Black, yd. rolls	
,, ,, Gold Beaters' Skin, 6 in. wide, yd. rolls	
Menthol	
Plaster Mulls, Unna's. These measure 1 metre × 20 centimetres, and contain in this area (⅕ square metre):	
Acidi Salicylici, 10 grammes	28
,, ,, 25 ,, ...	28
Acidi Salicylici 10 ,, Creasoti 20 ,, ...	28
Acidi Salicylici 20 ,, Creasoti 40 ,, ...	28
Acidi Salicylici 30 ,, Creasoti 50 ,, ...	28
Acidi Salicylici 50 ,, Creasoti 50 ,, ...	28
Acidi Salicylici 60 ,, Creasoti 40 ,, ...	28
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,,	10	,,	118
Hydrargyri	20	,,	218
Hydrargyri Acidi Carbolici	20 7·5	,, ,,	218
Hydrargyri Acidi Carbolici Hydrarg. Perchlor. Zinci Oxidi	20 10 2 10	,, ,, ,, ,,	218
Hydrargyri Zinci Oxidi	20 20	,, ,,	218
Hydrargyri Ammon.	10	,,	218
Iodoformi	10	,,	242
Resorcin	15	,,	355
Zinci Oxidi	10	,,	408
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,, ,, 2 sides	10	,,	6
Emp. Plumbi Acidi Carbolici	 5	 ,,	11
Ichthyol	10	,,	236
Zinci Oxidi, 1 side	10	,,	408
,, ,, 2 sides	10	,,	408
Zinci Oxidi Ichthyol	10 2	,, ,,	408
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Sawdust, Eucalyptus			189
Silk Ligatures, Carbolised, reels			9
Soap, Superfatted			
,, ,, Ichthyol	10	per cent.	
,, ,, Marble	20	,,	
,, ,, Salicylic	5	,,	
,, ,, Sublimate	1	,,	
,, ,, Sulphur, precipitated	10	,,	
Soluble Glass			363
Sponges, Carbolised			
,, Gamgee's			
Spray Apparatus for Disinfectants, Perfume and Medicated Solutions			
,, ,, for Cocaine Solutions			
Stypes, for holding Tampons			
Sublimate Lotiforms, for making lotions			221
Sublimate Pastils, ,,			222
Tampons, for applying Chloride of Methyl			272
Tenax, Carded Oakum, 1 lb. packages			337
Tow, Flax, (about) ½ lb. rolls			
,, ,, Carbolised, ½ lb. packages			
,, Jute (see above)			

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Wood Wool, in 1 lb. bags 335
„ „ Felt, for Wound Dressing ... ...
„ „ Gonorrhœa Bags 335
„ „ Sheets, for Accouchement 335
„ „ Towelettes, for Menstruation 335
„ „ Vaccination Pads ... ...
„ „ Wadding, for Wound Dressing 335
Wool, Prepared Cotton, finest, 1 lb. packages, 1 oz., 2 oz., and 4 oz. boxes ... ...
„ Absorbent, 1 lb. packages, 1 oz., 2 oz., and 4 oz. boxes 213
„ „ Alembroth, 2 per cent., 1 lb. packages 223
„ „ Boric Acid, 1 lb. packages 214
„ „ Carbolised, 5 per cent., 1 lb. packages 9
„ „ Eucalyptus, 5 per cent., 1 lb. and ½ lb. packages 189
„ „ Iodised, 6 per cent., 1 lb. packages ... 247
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„ Sheep's, Absorbent ... ...
Zinc Sulphate Pastils, for Red Lotion... 408

GAUBIUS' TABLE

Of Proportion of Dose according to Age.

For an adult, suppose the dose to be		1 or	60 grains,
Under 1 year will require	„	$\frac{1}{12}$ „	5 „
„ 2 „ „	„	$\frac{1}{8}$ „	8 „
„ 3 „ „	„	$\frac{1}{6}$ „	10 „
„ 4 „ „	„	$\frac{1}{4}$ „	15 ,
„ 7 „ „	„	$\frac{1}{3}$ „	20 „
„ 14 „ „	„	$\frac{1}{2}$ „	30 „
„ 20 „ „	„	$\frac{2}{3}$ „	40 „
21 to 60, the full dose, or		1 „	60 „

Above this age, an inverse gradation must be observed.

Another rule is, for children under 12, add 12 to the age, and divide the age by the amount thus obtained; thus for 8 years $\frac{8}{8+12} = \frac{2}{5}$ of adult dose.

II.

HISTOLOGICAL PREPARATIONS FOR STAINING, HARDENING, AND MOUNTING MICROSCOPIC OBJECTS; REAGENTS, &c.

Acid. Acetic.
,, Carbolic. Puriss. No. 1.
,, Chromic.
,, Formic Fort, Sp.Gr. 1·2.
,, Osmic. gramme tubes.
,, ,, Solution, 1 per cent.
,, *Picric, Solution, Aqueous, 1 per cent.
,, Picric, Solution, Alcoholic, 6 per cent.
,, Sulphanilic.
Agar Agar.
Alcannin.
Alcohol Absolute, S.G. ·795.
,, Meth. Fort.
Alizarine Paste, 20 per cent.
Ammonium Chromate.
,, Bichromate.
Aniline, Liquid (Phenylamine)
,, Sulphate.

Aniline Colours—
Acid. Rosolic.
Auramine.
Benzoazurine.
Black, Brilliant.
,, Blue.
,, Raven.
,, Violet.
Bleu de Lyon.
Blue, China.
,, Hofmann's.
,, Methylene.
,, Nicholson's.
,, Opal.
,, Pure Soluble.
Brown, Bismarck.
Chrysoidine.
Citronine.
Congo Red.
,, Paper.
Coralline.
Eosine.
Flamingo.
Fluorescein.
Fuchsine.
,, Acid.

Aniline Colours—*contd.*
Green, Acid.
,, Iodine.
,, Malachite.
,, Methyl.
Magenta (Roseine).
Nigrosine.
Orange.
,, Methyl.
Phosphine.
Phloxine.
Ponceau.
Primrose.
Purple (Spiller's).
Pyoktanin, Violet.
,, Yellow.
Red, Congo.
,, Insoluble in Water.
Rhodamine.
Rosaniline Acetate.
,, Hydrochlorate.
,, Nitrate.
Roseine (Magenta).
Rubine, S.
Safranine.
Scarlet, Atlas.
Sloeline (Blue Black).
Tropæoline O O.
Vesuvine.
Violet, Methyl Dahlia.
,, ,, Gentian.
,, ,, 5 B.
,, ,, 6 B.

Aniline Staining Solutions—
Solution of Blue, Methylene.
,, Borofuchsine.
,, Brown, Bism'k.
,, Chrysoidine (Saturated).
,, Eosine.
,, Green, Iodine.
,, Magenta.

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* As Picric Acid is now placed under the Explosives Act, 1875, it is only allowed to be stored in solution.

Aniline Staining Solutions—*contd.*
Solution of Magenta and Aniline for Bacilli (Ehrlich-Weigert's).
,, Magenta, Methylene Blue, and Aniline (Gibb's double)
,, Magenta and Phenol (Neelsen's).
,, Magenta and Phenol (Ziehl's)
,, Magenta, Phenol, and Methylene Blue. See p. 392 (Gabbett's).
,, Nigrosine.
,, Purple (Spiller's).
,, Safranine (Alcoholic).
,, Sloeline.
,, Vesuvine.
,, Violet, Methyl.
Asphalt Solution.
Benzene, Genuine Purified.
Cacao Butter.
Canada Balsam.
,, ,, dried.
,, ,, dried and dissolved in Xylol, with dropper.
,, ,, dried and dissolved in Chlorof'm, with dropper.
Carmine.
,, Glycerine.
,, Solution (Beale's).
,, Alum Solution (Grenacher's).
,, Borax Solution (Grenacher's).
Chloroform, Purif.
Creasote, Anhydrous.
,, and Shellac Cement.
Celloidin.
,, Solution.
Collodion, double strength.
Cochineal, Alum. Liquid.
Cyanin.
Dammar Varnish, with dropper.
Ehrlich's Diazo Test. See p. 391.
Ehrlich's Hæmatoxylin Solution.
Ehrlich's Hæmatoxylin and Lithium Solution.
Ether, Methylated ·730.
,, ,, Purif. ·720
,, ,, ,, ·717
Glycerine, Pure Distilled.
,, Jelly.
Gelatine, French, G'ld Label.
Gold Chloride, 15-grain tubes.
,, Size.
Hæmatoxylin.
,, Solution (Grenacher's).
,, ,, (Ehrlich's).
,, Lithium Solution (Weigert's).
,, Solution (Kleinenberg's Alcoholic).
Hollis' Glue.
Indigo Carmine.
Logwood Staining Solution (Aqueous).
,, Extract, Pure.
,, ,, Liquid.
Mayer's Pepsin Solution.
Methyl-Chloride, in kilo. cylinders.
Millon's Reagent (Mercuric-Nitrate Solution). P. 390.
Mounting Solution (Farrant's).
Müller's Fluid.
Oil of Cedar Wood.
,, Cloves, Pale.
,, Lavender, Pure French.
,, Origanum (Colourless).
,, Turpentine (Rectified).
Paraffin Wax, 100°, 110°, 120°, 135°.
Pasteur's Fluid, with or without sugar.
Peptone, Pale Brown.
,, Pure White.
Phloroglucin.
Picrocarmine Solution.
Potassium Chromate.
,, Bichromate.
Prussian Blue, Soluble.
Purpurine.
Silver Nitrate, Cryst.
Toluol.
Vanillin.
Xylol.
Ziehl's Double Stain, for Tubercle Bacillus.
Zinc Cement.
Zinc Iodo-Chloride (Schultz' Solution).

LIST OF THE

UNOFFICIAL FORMULARY, B.P.C.

(*British Pharmaceutical Conference*),

1891.

Acidum Hydrocyanicum (Scheele) 4 per cent.
  ,, Hypophosphorosum.
Chloral cum Camphora.
Chloroformum Aconiti.
  ,, Belladonnæ.
  ,, Camphoratum.
Collodium Belladonnæ.
Elixir Cascara Sagrada.
  ,, Glusidi.
  ,, Guaranæ.
  ,, Phosphori.
  ,, Rhei.
  ,, Sennæ.
  ,, Simplex.
Emulsio Olei Morrhuæ, II.
Extractum Grindeliæ Liquidum.
  ,, Hæmatoxyli Liquidum.
  ,, Tritici ,,
Glycerinum Belladonnæ.
Injectio Curare Hypodermica.
Linimentum Opii Ammoniatum.
Liquor Ferri Hypophosphitis Fortis.
  ,, Hypophosphitum Compositus.
  ,, Picis Carbonis.
Pix Carbonis Liquida Præparata.
Syrupus Apomorphinæ Hydrochloratis.
  ,, Butyl-Chloral.
  ,, Calcii Hypophosphitis.
  ,, Cascara Sagrada.
  ,, Codeinæ.
  ,, Ferri Bromidi.
  ,, Ferri Hypophosphitis.
  ,, Ferri Phosphatis Compositus.
Syrupus Ferri et Quininæ Hydrobromatum.
  ,, Ferri Quininæ et Strychninæ Hydrobromatum.
  ,, Ferri Quininæ et Strychninæ Phosphatum.
  ,, Hypophosphitum Compositus.
  ,, Ipecacuanhæ Aceticus.
  ,, Pruni Virginianæ.
  ,, Sodii Hypophosphitis.
Tinctura Benzoini Simplex.
  ,, Bryoniæ.
  ,, Calendulæ Florum.
  ,, Capsici Fortior.
  ,, Carminativa.
  ,, Convallariæ.
  ,, Coto.
  ,, Ergotæ Ammoniata.
  ,, Erythrophlœi.
  ,, Eucalypti.
  ,, Euonymi.
  ,, Euphorbiæ Piluliferæ.
  ,, Iodi Decolorata.
  ,, Phosphori Composita.
  ,, Pruni Virginianæ.
Unguentum Hydrargyri Oleati.
  ,, Oleo-Resinæ Capsici.
Vinum Aurantii Detannatum.
  ,, Xericum Detannatum.

The last two are prepared by macerating Gelatine 1 in 80 of the wines for 14 days. Isinglass in less quantity acts better. Are suitable as solvents of Salts of the Alkaloids, and of Iron.

INDEX
AND
POSOLOGICAL TABLE.

THIS index includes not only the name and adult dose of each drug and preparation described in the foregoing pages, but also those of official drugs and preparations to which a dose is assigned by the British Pharmacopœia.

The official names are printed in italics. Where no number of the page is inserted, the drug or preparation is not elsewhere mentioned. Lists of Formulæ for **Bougies, Granular Effervescent Preparations, Hypodermic Injections, Pessaries, Pills, Suppositories, Lozenges, Hypodermic Lamels, and Ophthalmic Discs** are added in alphabetical order.

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Abrus Precatorius		1
Absolute Phenol	1 to 3 gr.	7
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Acetanilide, syn. Antifebrin	3 to 10 gr.	126
Acetic Ether	20 to 60 m.	45
Acetic Liquor of Ergot	10 to 60 m.	184
Aceto-phenone, *syn.* **Hypnone**	1½ to 5 m.	127
Acet-phenetidin, *syn.* **Phenacetin**	4 to 15 gr.	133
Acetum Cantharidis, 1 in 10		100
,, *Ipecacuanhæ*	5 to 40 m.	250
,, *Scillæ*	15 to 40 m.	
Acetyl-para-amido-phenyl-salicylic-ester	10 to 30 gr.	32
Acetyl-phenyl-hydrazin	¼ to 3 gr. daily	132
Achyranthes Aspera		410
Acidulated Brine Test		389
Acidum Aceticum	5 to 15 m.	
,, *Aceticum Dilutum*	1 to 2 dr.	
,, *Aceticum Glaciale*	2 to 5 m.	
,, **Agaricum**	1-12 to 1-6 gr.	49
,, **Agaricicum, Agaricinicum**	1-12 to 1-6 gr.	

NAME.	DOSE.	PAGE
Acidum Alphatoluicum	1 to 3 gr.	128
,, *Arseniosum*	1-60 to 1-12 gr.	66
,, *Benzoicum*	3 to 15 gr.	1
,, Boracicum, *syn.*	5 to 30 gr.	3
,, *Boricum*	5 to 30 gr.	3
,, Camphoricum	10 to 20 gr.	96
,, Carbazoticum	¼ to 2 gr.	23
,, *Carbolicum*	1 to 3 gr.	7
,, *Carbolicum Liquefactum*	1 to 4 m.	8
,, Carbolicum (Synthetical)		7
,, Catharticum	4 to 8 gr.	181
,, Cetraricum	½ to 2 gr.	410
,, Chloraceticum		16
,, *Chromicum*		16
,, Chrysophanicum	1-6 to ½ gr. or more.	116
,, *Citricum*	10 to 30 gr.	
,, Cresoticum		32
,, Cresylicum		8
,, Cubebicum	15 gr.	172
,, Di-Iodo-Salicylicum		245
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, Filicicum	6 to 15 gr.	204
,, Fluoricum Dilutum	15 to 60 m.	18
,, *Gallicum*	2 to 10 gr. or more.	
,, Gynocardicum	½ to 3 gr.	298
,, Hippuricum		3
,, Homotoluicum	1 to 3 gr.	128
,, *Hydrobromicum Dilutum*	20 to 60 m.	17
,, *Hydrochloricum*	2 to 10 m.	
,, *Hydrochloricum Dilutum*	10 to 30 m.	
,, Hydrocinnamicum	1 to 3 gr.	128
,, *Hydrocyanicum Dilutum*	2 to 8 m.	
,, Hydrocyanicum (Scheele) B.P.C.	1 to 4 m.	426
,, Hydrofluoricum Dilutum	15 to 60 m.	18
,, ,, Purum		18
,, Hypophosphorosum	2 to 5 m.	320
,, Iodo-Salicylicum		245
,, *Lacticum*	5 to 20 m.	19
,, *Lacticum Dilutum*	30 to 120 m.	19
,, Laricicum	1-12 to 1-6 gr.	49
,, *Meconicum*		21
,, *Nitricum*	2 to 6 m.	
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,, *Nitrohydrochloricum Dilutum*	5 to 20 m.	
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,, Paracresoticum		32
,, Phenicum	1 to 3 gr.	7
,, Phenylaceticum	1 to 3 gr.	128
,, Phenylpropionicum	1 to 3 gr.	128
,, *Phosphoricum Concentratum*... ...	2 to 5 m.	22
,, *Phosphoricum Dilutum* ...	10 to 30 m.	23
,, Picricum	¼ to 2 gr.	23
,, Pyrogallicum	½ to 1½ gr.	24
,, *Salicylicum*	5 to 30 gr. or more.	25
,, ,, "Physiologically Pure"		26
,, Salicyl-sulphonicum		391
,, Scleroticum	½ to ¾ gr.	184
,, Sozolicum		14
,, Sulphocarbolicum		14
,, *Sulphuricum*	1 to 3 m.	
,, *Sulphuricum Aromaticum*	5 to 30 m.	181
,, *Sulphuricum Dilutum*...	5 to 30 m.	
,, *Sulphurosum*	30 to 60 m.	36
,, *Tannicum*	2 to 10 gr.	
,, *Tartaricum*	10 to 30 gr.	
,, Trichloraceticum		16, 391
,, Trichlorphenicum		15
,, Trinitrophenicum	¼ to 2 gr.	23
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Aconite Leaves and Root		38
Aconitina	1-240 to 1-60 gr.	38
Aconitinæ Oleatum, 1 in 50		39
Aconitine	1-240 to 1-60 gr.	38
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,, Fischeri		410
,, Heterophyllum	5 to 20 gr.	410
,, Japonicum		410
,, Lycoctonum		410
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,, ,, *Hydrosus*		260
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,, *Aceticus*	20 to 60 m.	45
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,, Chloridum		47
,, Iodidum		48
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Æthyleni Bromidum	1 to 2 m.	47
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Agaricin, *syn.* Acidum Agaricum	1-12 to 1-6 gr.	49
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,, Muscarius		282
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,, *Potassium*	10 to 20 gr.	52
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,, Chloridum	2 to 4 gr.	53
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,, Bicarbonas	3 to 10 gr.	53
,, *Bromidum*	2 to 20 gr.	54
,, Carbazotas	1-8 to 1½ gr.	23
,, *Carbonas*	3 to 10 gr.	
,, *Chloridum*	5 to 20 gr.	54
,, Fluoridum	1-24 to 1-8 gr.	19
,, Hypophosphis	1 to 6 gr.	321
,, Iodidum	3 to 20 gr.	54
,, *Nitras*		55
,, *Phosphas*	5 to 20 gr.	
,, Picras	1-8 to 1½ gr.	23
,, Salicylas	5 to 30 gr.	28
,, Sulpho-ichthyolas	10 to 30 gr. daily	235
,, Valerianas	1 to 8 gr.	55
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,, *Nitris*	½ to 1 m. by mouth 2 to 5 m. inhaled	56
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Amyli Iodidum	½ to 4 drs.	249
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,, Officinarum		59
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Anemonin	1-60 to 1-12 gr.	344
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Apocynin (Extractive)	½ to 1 gr.	61
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Apomorphinæ Hydrochloras	1-16 to ¼ gr. by mouth 1-25 to 1-6 hypoderm.	62
Aqua Anisi	½ to 1 oz.	
,, *Aurantii Floris*	½ to 2 dr.	
,, *Camphoræ*	½ to 2 oz.	95
,, *Carui*	½ to 2 oz.	
,, *Chloroformi*	½ to 2 oz.	114
,, *Cinnamomi*	2 dr. to 1 oz.	
,, *Fœniculi*	½ to 2 oz.	
,, *Laurocerasi*	½ to 2 dr.	
Menthæ Piperitæ	½ to 2 oz.	
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,, Picis	5 to 10 oz.	337
,, *Pimentæ*	½ to 2 oz.	
,, *Rosæ*	1 to 2 oz.	
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,, Injectio Hypodermica	2 to 10 m.	65
,, *Nitras*	1-6 to 1-3 gr.	64
,, *Oxidum*	½ to 2 gr.	
Ari Succus	1 dr.	417
Aristol		243
Arsenic, White	1-60 to 1-12 gr.	66
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Arsenii Iodidum	1-30 gr.	67
Arsenious Acid	1-60 to 1-12 gr.	66

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Asafœtida	5 to 20 gr.	
Asclepias Incarnata		411
,, **Cornuti**		411
,, **Syriaca**		411
,, **Tuberosa**		411
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Aspidospermine		346
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Atropina	1-120 to 1-60 or 1-16 gr.	69
Atropinæ Oleatum, 1 in 40		72
,, **Salicylas**	1-120 to 1-40 or 1-16 gr.	71
,, **Santonas**	1-120 to 1-40 gr.	70
,, ***Sulphas***	1-120 to 1-40 or 1-16 gr.	71
,, **Valerianas**	1-120 to 1-40 or 1-16 gr.	71
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Auri et Sodii Chloridum	1-30 to ½ gr.	76
Balls of Absorbent Wool		214
Balsamum Gurjunæ	½ to 2 dr.	77
,, ***Peruvianum***	10 to 15 m.	
,, ***Tolutanum***	10 to 20 gr.	
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,, **Silicated**		368
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Baptisin	1 to 5 gr.	77
Barbaloin	1 to 4 gr.	51
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,, ***Sulphate of***	1 to 10 gr.	77
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,, **Peptonised, Jelly of**		303
,, **Tea, Concentrated**		193
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,, ***Root***	1 to 5 gr.	78
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Benger's Liquor Pancreaticus	1 to 2 dr.	3 2
,, Liquor Pepticus	1 to 2 dr.	313
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Benzene	5 to 10 m.	129
Benzoic Acid	3 to 15 gr.	1
,, Sulphinide, *syn.* Saccharin		359
Benzol	5 to 10 m.	129
Benzonaphthol	4 to 8 gr.	283
Benzosol	4 to 12 gr.	172
Benzoyl-Ecgonine		144
,, Naphthol	4 to 8 gr.	283
,, -Sulphonic-Imide, *syn.* Saccharin		359
Berberina	2 to 5 gr.	227
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Bismuthi Carbonas	5 to 20 gr.	81
,, *Citras*	2 to 5 gr.	81
,, *et Ammonii Citras*	2 to 5 gr.	81
,, *Oxidum*	5 to 15 gr.	82
,, Oxychloridum	5 to 20 gr.	82
,, Oxyiodidum	5 to 10 gr.	82
,, Salicylas	5 to 20 gr.	83
,, et Cerii Salicylas		83
,, Subgallas		84
,, *Subnitras*	5 to 20 gr.	83
Bismuthum Peptonatum	80 gr.	83
,, *Purificatum*		81
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Bonducella		412
Bonduc Seeds	10 to 15 gr.	412
Bonjean's Ergotin	1 to 3 gr.	183
Boracic Acid	5 to 15 gr.	3
Borax	5 to 40 gr.	
Boric Acid	5 to 15 gr.	3
Boroglyceride		6
Bougies, Nasal, see Buginaria		
Bougies, Urethral, Elastic, Gelatine (dip in warm water) :—		
Belladonna, Alc. Ext., 1½ gr.		
Ext. Krameriæ, 1 gr.		
Tannic Acid, 1 gr.		
Thalline, 1 gr. and 2 gr.		139
Zinc Acetate, ½ gr. and 1 gr.		
Zinc Chloride, ¼ gr. Belladonna, Alc. Ext. 1 gr.		
Zinc Sulphate, ½ gr. and 1 gr.		
Zinc Sulphate, ½ gr. Belladonna, Alc. Ext., 1 gr.		
Zinc Sulphate, 1 gr. Belladonna, Alc. Ext., 1 gr.		
Zinc Sulphate, 1 gr. Ext. Opium, 1 gr.		
Zinc Sulphocarbolate, ½ gr.		
Bougies, Urethral, with Cacao Butter (dip in Catheter Oil) :—		
Belladonna, Ext. Root, ¼ gr.		
Betol		285
Bismuth Oxychloride, 10 gr.		
Cocaina	½ gr.	145
Eucalyptus Oil, 10 m.		
Iodoform, 5 gr.		
Iodoform, 5 grs. Eucalyptus Oil, 10 m.		240
Lead Acetate, ½ gr., ¾ gr., and 1 gr.		
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Zinc Chloride, ¼ gr. and ½ gr.		
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Bromal Hydrate	2 to 5 gr.	84
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,, of Ethyl		46
,, of Ethylene	1 to 2 m.	47
,, of Iron	3 to 10 gr.	194
,, of Lithium	5 to 15 gr.	
,, *of Potassium*	5 to 30 gr.	
,, *of Sodium*	10 to 30 gr.	364
,, of Zinc	3 to 10 gr.	405
,, Hydric		17

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Bromol	½ to 2 gr.	14
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Brucine	1-12 to ½ gr.	85
Bryonia		85
Buckbean		271
Buginaria.—Nasal Bougies, Elastic Gelatine, 3$\frac{3}{16}$ in. long.		
Buginarium Acidi Carbolici	½ gr.	
,, Cocainæ Hydrochloratis	1-6 gr.	147
,, Cupri Sulphatis ...	1-10 gr. and 1-6 gr.	
,, Iodoformi	1-6 gr. and ½ gr.	240
,, Zinci Sulphatis	1-10 gr.	
Bullocks, Dried Blood of		194
Burnett's Disinfecting Fluid		406
Butcher's Broom Tar		338
Butter of Antimony		60
Butyl-Chloral Hydras	2 to 15 gr.	86
Byne		264
Cabbage Tree		413
Cachets		333
,, of Antipyrine	5 to 20 gr.	135
Cactus Grandiflorus		412
Cæsalpinia Bonducella		412
Caffeina	½ to 5 gr. or more.	87
Caffeinæ Ammonio-Citras	1 to 10 gr.	88
,, *Citras*	½ to 5 gr. or more.	88
,, ,, Effervescens	1 dr. or more.	88
,, ,, Cum Potassii Bromido Effervescens ...	1 dr. or more.	88
,, Di-iodo-hydriodas	2 to 4 gr.	89
,, Hydrobromas... ...	½ to 5 gr. or more.	88
,, ,, Effervescens	1 dr. or more.	88
,, Sodio-Salicylas	1 to 4 gr.	88
,, Sulphas	½ to 5 gr.	89
,, Tri-Iodidum	2 to 4 gr.	89
,, Valerianas	½ to 3 gr.	89
Calabar Bean	1 to 4 gr.	324
Calamina Præparata		289
Calcii Carbonas præcipitata	10 to 60 gr.	
,, *Chloridum*	10 to 20 gr.	91
,, Hippuras	5 to 20 gr.	8
,, *Hypophosphis*	1 to 6 gr.	321
,, Lactas	1 to 5 gr.	19
,, Permanganas		268

NAME.	DOSE.	PAGE
Calcii Phosphas	10 to 20 gr.	
,, Salicylas	2 to 20 gr.	28
,, *Sulphidum*	1-10 to 1 gr.	92
Calendula		91
Calisaya Bark	10 to 60 gr.	120
Calomel	½ to 5 gr.	
Calumbæ Radix	10 to 20 gr.	
Calx Sulphurata	1-10 to 1 gr.	92
Cambogia	1 to 4 gr.	
Camphoid		96
Camphor	1 to 10 gr.	94
Camphor Ball		95
,, Essential Oil of		94
Camphora	1 to 10 gr.	94
,, Monobromata	2 to 10 gr.	96
,, Salicylata	1 to 5 gr.	97
Camphorated Carbolic Acid		8
,, Chalk		95
Camphoric Acid	10 to 20 gr.	96
Camphylene		285
Canadian Hemp		61
Cannabis Indica		98
Cannabina	1 to 5 gr. daily	99
Cannabin Tannas	2 to 10 gr.	99
Cannabinon	¼ to 1 gr.	99
Cantharidate of Potassium, Liebreich's Solution of		101
Cantharides		99
Cantharidin		100
Cantharis	1-16 to ½ gr.	99
Canton's Phosphorus		92
Capparis Coriacea		417
Capsaicin		102
Capsicin	1-8 to ¼ gr.	102
Capsicum Fruit	½ to 1 gr.	101
Capsules, Empty Gelatine		333
Capsules of Ammonium-Ichthyol, 4 gr.		236
,, of Amyl Nitrite, 1, 2,3, and 5 m.		57
,, of Amylene Hydrate, 10 m.		58
,, of Bromide of Ethyl, 5 m.		46
,, of Bromine, 1 and 4 c.c.		366
,, of Carbolic Acid, 60 m.		9
,, of Cascara Sagrada		357
,, of Cascara and Euonymin		357
,, of Chloride of Ethyl, 10 grammes		47
,, of Chloroform, 10 m.		112
,, of Cod Liver Oil, ½ and 1 dr.		299

NAME.	DOSE.	PAGE
Capsules of Fehling's Solution, 1 c.c.		388
,, of Hypnone, ¾ m.		127
,, of Iodide of Ethyl, 5 m.		48
,, of Jatropha Oil, 10 m.		414
,, of Lithium-Ichthyol, 4 gr.		236
,, of { β-Naphthol Bismuth Salicylate }	2 gr. 1 gr.	
,, of Oil of Gaultheria, 10 m.		27
,, of Oil of Male Fern, 15 m.		204
,, of Paraldehyde, 40 m.		50
,, of Santal Oil, 10 m.		301
,, of Terebene	5 m.	385
Carbanilic Ether	3 to 6 gr.	402
Carbasus Acidi Carbolici		8
,, Eucalypti		189
,, Thymol		395
Carbazotic Acid	¼ to 2 gr.	23
Carbo Animalis	20 to 60 gr.	
Carbo Ligni	20 to 60 gr.	
Carbolated Camphor		8
Carbolic Acid	1 to 3 gr.	7
,, Acid Gauze		8
,, Acid Soap		11
,, Colloid		164
,, Dressing		11
,, Oil		9
Carbolised Iodine Solution		9
,, Silk		9
,, Tow		9
,, Wool		9
Carbon, Tetrachloride of		103
Carlsbad Salt, Artificial		370
Carmine		103
,, Glycerine of		103
Carnis Extractum		193
Caroba		414
Casca Bark		185
Cascara Amarga		358
,, Capsules		357
,, *Sagrada*		357
Cashew Nut		59
Catechu	10 to 30 gr.	
Catgut Ligatures		9, 17
Cathartic Acid	4 to 8 gr.	181
Catheter Oil		9
,, ,, Salol		32

NAME.	DOSE.	PAGE
Cat's Hair		192
Caulophyllin	1 to 4 gr.	164
Caustic, Mitigated		65
„ *Toughened*		65
Celloidin		168
Cerasin	1 to 5 gr.	343
Ceresin, a paraffin		306
Ceratum Calaminæ		259
„ Cocainæ, 1 in 30		145
„ Petrolei		309
Cereolus Iodoformi, 5 gr. et Eucalypti, 10 m.		240
Cereus, Night-blooming		412
Cerevisiæ Fermentum	½ to 1 oz.	
Cerii Oxalas	1 to 2 gr.	
Cetrarin, *syn.* Cetraric Acid	½ to 2 gr.	410
Chalk, Camphorated		95
Chamomile Flowers		69
Charta Epispastica		100
Charta Nitrata		341
Chartazinc		297
Chaulmoogra Oil	2 to 15 gr.	298
Chaulmoogra Ointment		299
Chekan		412
Chemical Food	½ to 2 dr.	202
Chewstick, Jamaica		413
Chian Turpentine	5 to 10 gr.	386
Chinese Oil of Peppermint		271
Chinoidinum	1 to 5 gr.	354
Chinolini Salicylas	5 to 15 gr.	130
„ Tartras	5 to 15 gr.	130
Chinolinum	3 to 10 m.	130
Chloracetic Acid		16
Chloral Hydras	5 to 30 gr.	104
„ cum Camphorâ		106
„ cum Menthol		106
„ cum Phenol		106
„ cum Thymol		106
Chloralamide	20 to 50 gr.	106
Chloralantipyrin	15 gr.	138
Chloralimide	5 to 30 gr.	108
Chloralum		53
Chlori Gargarisma		365
Chloric Ether, syn. Spt. chloroformi	5 to 60 m.	115
Chloride of Ethyl		47
„ of Methyl		272
„ *of Zinc*		405

NAME.	DOSE.	PAGE
Chlorobrom	½ to 1 oz.	107
Chlorodyne	5 to 20 m.	114
Chloroform and Cocaine Anæsthesia		152
,, Capsules of		112
,, Pictet's		109
Chloroformum	1 to 10 m.	108
,, Aconiti, 1 in 1		39
,, Belladonnæ, 1 in 1		78
,, Camphoratum, 2 in 3		124
Chlorogenine		411
Chloromorphiæ Liquor	5 to 20 m.	114
Chlorphenol		15
Chrisma		307
Chromic Acid		16
Chromic Catgut Ligatures		17
Chrysarobinum	1-6 to ½ gr. or more.	115
Chrysarobinum Purum		116
Chrysophanic Acid	1-6 to 2 gr. or more.	116
Cicutine	½ gr. increased	164
Cigarettes, Arsenical		68
,, Cubeb		172
Cimicifugæ Rhizoma		119
Cimicifugin	1 to 6 gr.	119
Cimolite		253
Cina		361
Cinchonæ Calisayæ Cortex	5 to 60 gr.	120
,, *Officinalis Cortex*	5 to 60 gr.	120
,, *Rubræ Cortex*	5 to 60 gr.	121
,, *Succirubræ Cortex*		121
Cinchonamine		120
Cinchonidinæ Salicylas	1 to 10 gr.	123
,, *Sulphas*	1 to 10 gr.	122
Cinchoninæ Hydrochloras	1½ to 10 gr.	123
,, Iodosulphas		124
,, Iodomercuras		124
,, *Sulphas*	1½ to 10 gr.	124
Cinchonine	1 to 10 gr.	123
Clemens' Solution	1 to 5 m.	66
Clubmoss Spores		263
Coal Tar Derivatives		124
,, ,, Solutions		124
Coca	30 to 120 gr.	140
Cocaina cum Oleo, 2 per cent.		145
Cocainæ Carbolas	1-5 to 1 gr.	149
,, Citras	1-5 to 1 gr.	146
,, Hydrobromas	1-20 to 1 gr.	146

NAME.	DOSE.	PAGE
Cocainæ *Hydrochloras*	1-5 to 1 gr.	146
,, Nitras	1-5 to 1 gr.	148
,, Phenas	1-5 to 1 gr.	149
,, Salicylas	1-5 to 1 gr.	149
,, Sulphas	1-5 to 1 gr.	142
Cocaine	1-20 to 1 gr.	143
Cocculin		328
Cocculus Indicus		328
Cockroach		411
Cod Liver Oil		299
,, ,, ,, Emulsion	2 to 8 dr.	299
,, ,, ,, ,, with Hypophosphites		299
,, ,, ,, Phosphorated	1 to 4 dr.	317
Codeina	¼ to 2 gr.	159
Codeine and Glycerine Jelly	1 dr.	160
Codeinæ Phosphas	⅓ to 2 gr.	160
Cohosh, Black		119
,, Blue		104
Colchici Cormus	2 to 8 gr.	
Colchicine	1-32 to 1-16 gr.	161
Collinsonia Canadensis		412
Collodium		162
,, Belladonnæ		79
,, Callosum		163
,, Cocainæ, 2 per cent.		145
,, cum Oleo Crotonis, 1 in 8		163
,, Epispasticum Fortius		101
,, cum Iodoformo, 1 in 12		240
,, *Flexile*		163
,, Ichthyol		236
,, Iodi, 30 gr. in 1 oz.		163
,, Iodol		245
,, Salicylicum		163
,, ,, et Lacticum		164
,, ,, et Hydrarg. Perchlor.		163
,, ,, cum Zinci Chlorido		163
,, Salol		31
,, Stypticum		164
,, *Vesicans*		100
,, Zinci Chloridi		163
Colloid, Anodyne		162
,, Carbolic		164
Collunaria.—Nasal Douches :—		
Collunarium { Acidi Carbolici 4 gr. Sodii Bicarb. 12 gr. Boracis 12 gr. }	in 1 oz. T.H.	

NAME.	DOSE.	PAGE
Collunarium Aluminis, 4 gr. to 1 oz. T.H.		
,, Potassii Permanganatis, 1-20 gr. in 1 oz. T.H.		
,, Quininæ, ½ gr. in 1 oz. T.H.		353
,, Sodii Bicarb., 30 gr. in 1 oz. T.H.		
,, Zinci Sulphatis, ½ gr. in 1 oz. T.H.		
,, Zinci Sulphocarbolatis, 2 gr. in 1 oz. T.H.		
Colocynthidis Pulpa	2 to 8 gr.	
Compound Anæsthetic Ether		44
Compressed Tablets		383
Concentrated Beef Tea (Brand's)		193
Concentric Pills		333
Conchinin	1 to 15 gr.	347
Condurangin		164
Condurango	15 to 60 gr.	164
Confectio Emblicæ	1 to 4 dr.	183
,, *Opii*	10 to 20 gr.	
,, *Piperis*	60 to 120 gr.	
,, *Scammoniæ*	10 to 30 gr.	
,, *Sennæ*	60 to 120 gr.	
,, *Sulphuris*	60 to 120 gr.	382
,, *Terebinthinæ*	60 to 120 gr.	
Congo Paper		393
,, Red		393
Conina	¼ gr. increased	164
Coninæ Hydrobromas	1-3 gr. increased	165
Conine, *syn.* Conicine	¼ gr. increased	164
Conquinine	1 to 15 gr.	347
Convallamarin	½ to 2 gr.	166
Convallaria Majalis		166
Convallarin	3 to 4 gr.	166
Convolvulin	1 to 5 gr.	257
Copaiba	30 to 60 m.	
Corn Ergot		415
,, Silk		415
Corns, Collodions for		163
Cornus Florida	20 to 60 gr.	412
Cornutine	1-6 gr. daily	182
,, Citrate	1-6 to ¼ gr. daily	192
,, Hydrochlorate	,, ,,	182
Cosmoline		307
Coster's Paste		248
Cotarnine		287
Coto Cortex	1 to 8 gr.	167
Cotoin	½ to 2 gr.	168
Cotton Wool, Medicated		214
Coumarin		60, 168

NAME.	DOSE.	PAGE
Cranesbill Root		413
Cream of Tartar	20 to 60 gr. or more	
Cream, Salicylic		28
,, Zinc		311
Creasote	1 to 3 m.	169
,, Anhydrous	1 to 3 m.	169
,, Hydrated	1 to 3 m.	169
Creasotum	1 to 3 m.	169
Creatin	1½ gr.	193
Cremor Salicylicus		28
,, Zinci		311
Creolin	1 to 5 gr.	125
Cresalol		33
Cresol		8
,, Salicylas	2 to 10 gr.	33
Cresotic Acid		32
Cresylic Acid		8
Creta Præparata	10 to 60 gr.	
Crotalus		412
Croton-Chloral Hydrate	2 to 15 gr.	86
Cubeb Cigarettes		172
Cubeba	30 to 120 gr.	172
Cubebic Acid	15 gr.	172
Cubebin		172
Cuca	30 to 120 gr.	140
Cucumber Ointment		173
Cucumis		173
Cuprea Bark		120
Cupreinæ Sulphas	1 to 5 gr.	120
Cupri Arsenis	1-100 to 1-25 gr.	67
,, Oleas		294
,, *Sulphas*	¼ to 2 gr.	
Cupric Test Pellets		388
Cuprum Aluminatum		53
Curara	1-20 to ½ gr.	173
Curarina	(?) 1-400 to 1-40 gr.	173
Curcas Purgans		414
Curdling Ferment		301, 312
Cure, Himrod's		342
Cusso	¼ to ½ oz.	
Cypripedin	1 to 3 gr.	174
Damiana		174
Darts of Chloride of Zinc		406
Daturina	1-120 to 1-16 gr.	175
Daturinæ Sulphas	1-120 to 1-16 gr.	175
Daturine	1-120 to 1-16 gr.	175

Name.	Dose.	Page.
Daturine, Heavy		70
,, **Light**		70, 175
Day's Ointment		229
Decoctum Achyranthis	2 oz.	410
,, ***Aloes Compositum***	½ to 2 oz.	
,, ***Cetrariæ***	*ad lib.*	
,, ***Cinchonæ***	1 to 2 oz.	121
,, **Eucalypti Gummi**	2 to 4 dr.	191
,, **Euphorbiæ Piluliferæ**	2 oz.	192
,, ***Granati Radicis***	1 to 2 oz.	
,, ***Hæmatoxyli***	1 to 2 oz.	
,, ***Hordei***	*ad lib.*	
,, ***Papaveris*, 1 in 10**		
,, ***Pareiræ***	1 to 2 oz.	
,, ***Quercus*, 1 in 16**		
,, ***Sarsæ***	2 to 10 oz.	
,, ***Sarsæ Compositum***	2 to 10 oz.	
,, ***Scoparii***	2 to 4 oz.	
,, ***Taraxaci***	2 to 4 oz.	
,, **Tritici**	1 to 5 oz.	398
Deelina Oil		311
Delphina	¼ to ½ gr.	175
Depilatories		93
Dermatol		84
De Valangin's Mineral Solvent		66
Dialysed Iron	10 to 30 m.	198
Diapers of Wood Wool		335
Diastase, Malt		264
,, **Pancreatic**		301
Diazo Test for Typhoid, Ehrlich's		391
Dichloride of Ethidene		186
Diethylene-diamine	4 to 10 gr.	335
Digitalein (Schmiedeberg)	1-60 to 1-30 gr.	177
Digitaléine (Nativelle)		177
Digitalin (Schmiedeberg and Kiliani)	1-250 gr.	177
Digitaline, Crystallized (Nativelle)	1-60 to 1-30 gr.	176
,, **Granules (Homolle)**	2 to 4	176
ne Amorphe	1-60 to 1-30 gr.	176
	1-60 to 1-30 gr.	176
ia	½ to 1½ gr.	176
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		177
Phenol-Sulphonic Acid		246
lic Acid		245
esorcin		356
-carbinol		58

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Discs of Atropine, 1-5000 gr. in each		75
Dita Bark		411
Ditaine		411
Di-thio-salicylic Acid		29
Di-thio-salicylate of Sodium	3 gr.	29
Di-thymol-iodide		243
Diuretin	15 gr.	394
Dogwood		412
,, Jamaica		336
Dolichos Soja		417
Donovan's Solution	5 to 15 m.	67
Dover's Powder (*Pulv. Ipec. Co.*)	5 to 15 gr.	
Drosera Rotundifolia		412
Duboisina		178
Duboisinæ Sulphas	1-120 to 1-30 gr.	177
Dynamite		288
Easton's Syrup	1 dr.	202
Eau de Goudron	5 to 10 oz.	337
Effervescent Salts, see, in Index, Granular.		
Ehrlich's Diazo Test for Typhoid Fever		391
Elæosacchara		179
Elaterinum	1-40 to 1-10 gr.	179
Elaterium	1-16 to ½ gr.	179
Elepizone	1 dr.	364
Elixir Acidum	2 to 8 m.	181
,, Aurantii	½ to 2 dr.	179
,, Bismuthi	60 m.	180
,, Camphoræ	30 to 60 m.	55
,, Camphoræ Monobromatæ	4 dr.	97
,, Cascara Sagrada	15 to 60 m.	357
,, Cinchonæ	60 m.	180
,, Cocæ	1 to 4 dr.	141
,, Ferri, Quininæ, Strychninæ Phosphatum	1 dr.	203
,, Glusidi, *syn.* Saccharini		360
,, Guaranæ	60 m.	215
,, Papain	1 dr. with meals	305
,, Paraldehydi	1 to 3 dr.	50
,, Phosphori	15 to 60 m.	316
,, Rhei	1 to 3 dr.	180
,, Rubrum	20 to 60 m.	180
,, Saccharini, 3 gr. in 60 m.		360
,, Sennæ	1 to 8 dr.	181
,, Simplex	20 to 60 m.	180
,, of Vitriol	5 to 30 m.	181
Emblic Myrabolans	1 or 2	182
Emblicæ Fructus	1 or 2	182

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Emetin (Extractive)	,, $\frac{1}{80}$ to $\frac{1}{15}$, ,, $\frac{1}{3}$ to 1 gr.	250
Emodin ...	...	367
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,, Aconiti et Belladonnæ...	...	40
,, *Belladonnæ* ...	...	79
,, Belladonnæ Extensum...	...	79
,, ,, Fluidum ...	...	79
,, *Calefaciens* ...	...	100
,, *Cantharidis* ...	...	100
,, Capsici ...	...	102
,, Cocainæ ...	...	145
,, Hamamelidis ...	...	217
,, Hydrargyri Oleatis ...	...	296
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,, *Menthol* ...	...	269
,, *Plumbi* ...	...	
,, ,, *Iodidi*, 1 in 10 ...	...	
,, Rhois ...	...	359
,, Salicylicum ...	...	28
,, Scopolæ ...	...	416
,, Thapsiæ ...	...	394
,, Unguenti Zinci (Unna's)	...	408
Empty Gelatine Capsules ...	...	333
Emulsio Adipis ...	... 1 to 3 dr.	304
,, Iodoformi ...	...	240
,, Olei Morrhuæ ...	... 2 to 8 dr.	299
,, ,, cum Hypophosph.	...	299
Emulsion of Fat ...	... 1 to 3 dr.	304
,, Pancreatic ...	... 1 to 3 dr.	303
Emulsive Ferment ...	...	301
Ergot ...	10 to 30 gr.	182
,, of Maize ...	...	415
Ergotinum...	... 1 to 3 gr.	183
Ergotininæ Citras ...	1-150 to 1-30 gr.	184
Ergotinine ...	1-200 to 1-40 gr.	184
Eriodictyon Glutinosum ...	...	418
Erythrophlœine ...	...	185
Erythrophlœinæ Hydrochloras ...	1-40 to 1-24 gr.	185
Erythrophlœum ...	...	185
Erythroxylon Coca ...	30 to 120 gr.	140
Eseridina...	...	325
Eserina ...	...	325
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,, Salicylas ...	... 1-60 to 1-20	326
,, Sulphas ...	... 1-60 to 1-20	326

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„ of Pancreatine	... ...	303
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„ *Menthæ Piperitæ*	10 to 20 m.	
Ether	20 to 60 m.	42
„ Absolute	... ...	43
„ Absolute, Methylated	... ...	43
„ *Acetic*	20 to 60 m.	45
„ Chloric	... ...	115
„ Compound Anæsthetic	... ...	44
„ Hydriodic	... ...	48
„ Hydrobromic	... ...	43
„ Hydrochloric	... ...	47
„ Methylated	... ...	44
„ Ozonic	½ to 1 dr.	228
„ Phosphorated	... 1 to 10 m.	316
„ Rectified, from Methylated Spirit	... ...	44
„ Perles of	... 1 to 4	44
„ *Sulphuric*	20 to 60 m.	42
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„ Oxygen	... ...	230
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„ Carbamate of	16 to 60 gr.	402
„ Chloride of	... ...	47
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„ Iodide of	... ...	48
„ Nitrite of	... ...	45
„ „ Solution of	... 10 to 60 m.	45
„ Oxide of	... 20 to 60 m.	42
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Ethylene, Bromide of	... 1 to 2 m.	47
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Ethylic Alcohol	... ...	49
Ethylidene, Chloride of...	... ...	186
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„ *Gummi*	... 2 to 10 gr.	190
„ *Oleum*	... ...	188
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„ Sawdust	... ...	189
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Eugenic Acid		412
Eugenol		412
Euonymi Cortex		191
Euonymin, *syn.* Extractum Euonymi Siccum	1 to 4 gr.	192
Eupatorium Perfoliatum	10 to 60 gr.	412
Euphorbia Pilulifera		192
Euphorin	3 to 6 gr.	402
Europhen		244
Exalgin	2 to 6 gr.	130
Extract, Pond's		216
Extractum Achyranthis Liquidum	1 dr.	410
,, *Aconiti*	¼ to 1 gr.	40
,, Aconiti Radicis Alcoholicum	1-10 to 1-3 gr.	40
,, *Aloes Barbadensis, or Socotrinæ*	2 to 6 gr.	
,, *Anthemidis*	2 to 10 gr.	60
,, *Belæ Liquidum*	1 dr. to 2 dr.	
,, *Belladonnæ*	¼ to 1 gr.	79
,, *Belladonnæ Alcoholicum*	1-16 to ¼ gr.	79
,, Bynes	1 to 4 dr.	264
,, ,, Liquidum	1 to 4 dr.	265
,, Cacti Grandiflori Liquidum	1 to 10 m.	412
,, *Calumbæ*	2 to 10 gr.	
,, *Cannabis Indicæ*	¼ to 1 gr.	93
,, Carnis		193
,, *Cascaræ Sagradæ*	2 to 8 gr.	357
,, *Cascaræ Sagradæ Liquidum*	10 to 60 m.	357
,, Chekan Fluidum	½ to 3 dr.	412
,, *Cimicifugæ Liquidum*	3 to 30 m.	119
,, Cinchonæ Flavæ Liquidum	10 to 30 m.	121
,, *Cinchonæ Liquidum*	5 to 10 m.	121
,, Cocæ	5 to 15 gr.	141
,, *Cocæ Liquidum*	1 to 4 dr.	141
,, *Colchici*	½ to 2 gr.	
,, *Colchici Aceticum*	½ to 2 gr.	
,, Collinsoniæ Liquidum	15 to 60 m.	412
,, *Colocynthidis Compositum*	3 to 10 gr.	
,, Condurango Liquidum	10 to 60 m.	164
,, Convallariæ	2 to 8 gr.	166
✓ ,, Fluidum	5 to 15 m.	167
,, *Conii*	2 to 6 gr.	
,, Corn Silk, *syn.* Maidis Stigmata		415
,, Cornus Fluidum, U.S.	30 to 75 m.	412
,, Coto Liquidum	2 to 6 m.	167
,, Damianæ	2 to 10 gr.	175
,, ,, Liquidum	1 to 2 dr.	174

Name.	Dose.	Page
Extractum Digitalis, U.S., semi-alcoholic	1-6 to ½ gr.	
,, ,, Fluidum, ,, ,,	... 1 to 20 m.	
,, *Ergotæ Liquidum*	10 to 60 m.	182
,, Erythroxyli Fluidum ...	...½ to 2 dr.	141
,, Eucalypti Gummi Liquidum	20 to 60 m.	191
,, Euonymi Liquidum ...	... 10 to 60 m.	192
,, ,, *Siccum* ...	... 1 to 4 gr.	192
,, Eupatorii Fluidum, U.S. ...	...10 to 60 m.	413
,, Euphorbiæ Piluliferæ ...	½ to 1½ gr.	193
,, *Filicis Liquidum*	15 to 30 m.	204
,, *Frangulæ Liquidum* ...	... 1 to 4 dr.	357
,, Fuci Vesiculosi	... 3 to 8 gr.	205
,, Fuci Vesiculosi Liquidum	... 1 to 2 dr.	205
,, Galii	... 5 to 20 gr.	413
,, *Gelsemii Alcoholicum* ...	½ to 2 gr.	206
,, *Gentianæ*	... 2 to 10 gr.	
,, Geranii Maculati Fluidum	... 15 to 60 m.	413
,, *Glycyrrhizæ*	... 5 to 60 gr.	212
,, *Glycyrrhizæ Liquidum* ...	20 to 60 m.	212
,, Gossypii Radicis	... 1 to 4 gr.	214
,, Grindeliæ	... 2 to 3 gr.	214
,, Grindeliæ Liquidum ...	10 to 30m.	215
,, *Hæmatoxyli*	10 to 30 gr.	
,, ,, Liquidum ...	½ to 1 dr.	216
,, *Hamamelidis Liquidum* ...	... 2 to 5 m.	217
,, ,, Destillatum	... ½ to 3 dr.	217
,, Hydrastis	... 2 to 5 gr.	226
,, ,, *Liquidum* ...	... 5 to 30 m.	226
,, *Hyoscyami*	... 5 to 10 gr.	
,, *Jaborandi*	... 2 to 10 gr.	252
,, ,, Fluidum... ...	10 to 60 m.	252
,, *Jalapæ*	... 5 to 15 gr.	257
,, Jambul Liquidum ...	... ½ to 2 dr.	257
,, Kava-Kava	... 5 to 10 gr.	414
,, ,, Liquidum ...	... 15 to 60 m.	414
,, *Krameriæ*	... 5 to 20 gr.	
,, *Lactucæ*	... 5 to 15 gr.	
,, *Lupuli*...	... 5 to 15 gr.	
,, Maidis Stigmatum	... 20 gr.	415
,, ,, ,, Fluidum	... 1 dr.	415
,, ,, Ustilaginis Fluidum	...½ to 2 dr.	415
,, Malti	... 1 to 4 dr.	264
,, ,, Ferratum	... 1 to 4 dr.	265
,, ,, Liquidum	... 1 to 4 dr.	265
,, ,, cum Oleo Morrhuæ	... 1 to 4 dr.	265
,, Menyanthis et Glycyrrhizæ Liquidum	½ oz.	271

Name.	Dose	Page
Extractum *Nucis Vomicæ*	1-8 to ½ or 1 gr.	293
,, *Opii*	½ to 2 gr.	
,, *Opii Liquidum*	10 to 40 m.	
,, Pancreatis (Fairchild)		301
,, *Papaveris*	2 to 5 gr.	
,, *Pareiræ*	10 to 30 gr.	
,, *Pareiræ Liquidum*	30 to 120 m.	
,, *Physostigmatis*	1-16 to ¼ gr.	325
,, Pichi Liquidum	10 to 40 m.	415
,, Pini Sylvestris		334
,, Piscidiæ Erythrinæ Fluidum	20 to 120 m.	336
,, *Quassiæ*	3 to 5 gr.	
,, *Rhamni Frangulæ*	15 to 60 gr.	357
,, ,, ,, *Liquidum*	1 to 4 dr.	357
,, *Rhamni Purshiani*	2 to 8 gr.	357
,, ,, ,, *Liquidum*	10 to 60 m.	357
,, *Rhei*	5 to 15 gr.	
,, Rubi Chamæmori Liquidum	½ to 1 dr.	416
,, Salicis Nigræ Liquidum	½ to 1 dr.	416
,, *Sarsæ Liquidum*	2 to 4 dr.	
,, Scopolæ	1-8 to ½ gr.	416
,, ,, Liquidum	1 to 5 m.	416
,, Sethiæ Liquidum	20 to 40 m.	417
,, Stillingiæ Fluidum	15 to 60 m.	372
,, *Stramonii*	¼ to ½ gr.	
,, *Taraxaci*	5 to 30 gr.	
,, *Taraxaci Liquidum*	½ to 2 dr.	
,, Tritici Liquidum	1 to 6 dr.	399
,, Viburni Prunifolii	2 to 10 gr.	418
,, ,, ,, Liquidum	10 to 30 m.	418
,, Vincæ Majoris Liquidum	1½ dr.	418
,, Yerbæ Santæ	10 to 40 m.	418
Fat Emulsion	1 to 3 dr.	304
Fehling's Solution		387
,, ,, Glass Capsules of		388
,, ,, Pellets of		388
,, ,, Schmiedeberg's modification of		388
Fel Bovinum Purificatum	5 to 10 gr.	
Ferments—Digestive		301, 305, 312
Ferri Albuminati, Liquor	1 to 4 dr.	199
,, *Arsenias*	1-16 to ½ gr.	68
,, Bromidum	3 to 10 gr.	194
,, *Carbonas Saccharata*	5 to 30 gr.	195
,, *et Ammonii Citras*	5 to 10 gr.	
,, ,, Sulphas	3 to 10 gr.	204
,, et Magnesii Sulphas	2 to 10 gr.	203

NAME.	DOSE.	PAGE
Ferri et Magnesii Sulphas Effervescens	1 dr. or more	204
,, et Quininæ Chloridum		350
,, ,, ,, *Citras*	5 to 10 gr.	348
,, ,, ,, , Effervescens	1 dr.	348
,, et Strychninæ Citras	3 to 8 gr.	377
,, Fluoridum	$\frac{1}{30}$ to ¼ gr.	19
,, Hypophosphis	1 to 5 gr.	323
,, Iodidum	1 to 5 gr.	
,, Lactas	2 to 10 gr.	19
,, Oxidum Magneticum	5 to 10 gr.	
,, Peptonati, Liquor	1 to 4 dr.	200
,, Perchloridum	2 to 8 gr.	196
,, Peroxidum Humidum	2 to 4 dr.	
,, ,, *Hydratum*	5 to 30 gr.	
,, *Phosphas*	2 to 10 gr.	201
,, ,, U.S.	2 to 8 gr.	201
,, Pyrophosphas, U.S.	2 to 8 gr.	323
,, Quininæ et Strychninæ Citras	3 to 10 gr.	377
,, Salicylas	3 to 10 gr. or more.	28
,, Succinas		342
,, *Sulphas*	1 to 5 gr.	
,, ,, *Exsiccata*	½ to 3 gr.	
,, ,, *Granulata*	1 to 5 gr.	
Ferrier's Snuff		84
Ferro-Alumen	3 to 10 gr.	204
Ferrocyanic Acid Test Pellets		389
Ferrocyanide of Potassium Papers		390
Ferrum		194
,, Dialysatum		198
,, *Redactum*	1 to 5 gr.	
,, *Tartaratum*	5 to 10 gr.	
Filicic Acid	6 to 15 gr.	204
Filix Mas		204
Fir Wool, Oil, and Extract		334
Fleming's Tincture of Aconite	1 to 5 m.	40
Flowers of Camphor	1 to 10 gr.	94
Fluoresceïn		131
Fluoric Acid		18
Fluoride of Ammonium	1-24 to ½ gr.	19
,, Iron	1-20 to ½ gr.	19
,, Quinine	1 to 2 gr.	19
Fomentum Belladonnæ		79
Formamide		52, 225
Formulary, Unofficial, B.P.C.		426
Formyl, Terchloride of	1 to 10 m.	108
Fossiline		307

NAME.	DOSE.	PAGE
Fowler's Solution of Arsenic	2 to 8 m.	66
Franciscea Uniflora		415
French Chalk		259
,, Oil of Turpentine	30 m. every ½ hour	315
Fructus Emblicæ	1, 2, or more	182
Fuchsine	½ to 4 gr.	131
Fucus Vesiculosus		204
Fuller's Earth		259
Fumus Potassii Nitratis		341
Fungus Laricis		48
Gabbett's Stain for Tubercle Bacilli		392
Galbanum	5 to 15 gr.	
Galium Aparine		413
Galla	5 to 15 gr.	
Gallacetophenone		25
Gamboge	1 to 5 gr.	
Gargarisma Chlori		365
Gas-karal-heba		410
Gaubius' Table of Dosage		423
Gaultheriæ, Oleum	10 m.	25
Gauze, Alembroth		223
,, ,, and Cotton Wool Tissue		223
,, Carbolic Acid		8
,, Eucalembroth		223
,, Eucalyptus		189
,, Iodoform		241
,, Mercuro-Zinc Cyanide		219
,, Thymol		395
,, Zinc Sulphite		409
Gelato-Glycerine		209
Gelatum Petroleum		307
Gelatum Zincum		407
Gelidium Corneum		411
Gelsemin (Eclectic)	½ to 2 gr.	206
Gelsemina (Pure Alkaloid)	1-60 to 1-20 gr.	205
Gelseminæ Hydrochloras	1-60 to 1-20 gr.	206
Gelseminine		205
Gelsemininæ Hydrochloratis Liquor		206
Gelsemium	5 to 30 gr.	205
Geoffroya Inermis	20 to 30 gr.	413
Geoline		307
Geranin	1 to 5 gr.	413
Geranium Maculatum		413
Gingerin	¼ to 1 gr.	207
Glass, Soluble, or Water Glass		368
Glonoin		287

Name.	Dose.	Page
Glonoin, *Solution of*, *syn.* Liq. Nitroglycerini,	½ to 2 m.	289
Glusidum		359
Glycerine Jelly		209
Glycerinum	10 m. to 2 dr.	208
,, Acidi Borici, 1 in 5		4
,, *Acidi Carbolici*, 1 to 4		9
,, *Acidi Gallici*, 1 to 4		208
,, *Acidi Tannici*, 1 to 4		208
,, *Aluminis*, 1 to 5		208
,, ,, et Acidi Tannici		209
,, *Amyli*, 1 to 8		208
,, Belladonnæ		79
,, Bismuthi Nitratis, 60 gr. to 1 oz.		209
,, *Boracis*, 1 to 6		208
,, Carmini		103
,, cum Aquâ Rosæ		209
,, Ferri Dialysati	30 to 60 m.	199
,, ,, Perchloridi		197
,, Hydrargyri Perchloridi		221
,, Iodi		247
,, Papain	1 dr. with meals	305
,, Pepsinæ Acidum	1 to 2 dr.	313
,, Phosphori	15 to 60 m.	316
,, *Plumbi Subacetatis*		209
,, Resorcin		355
,, *Tragacanthæ*		397
Glycerole of Subacetate of Lead		209
Glyco-gelatine		210
Glycyrrhiza	5 to 20 gr.	212
Glycyrrhizinum Ammoniatum	½ to 5 gr.	212
Goa Powder		115
Gokhru		213
Golden Seal	10 to 30 gr.	225
Gonorrhœa Bags (Wood Wool)		335
Gossypium		213
,, Absorbens		213
,, Acidi Borici (50 per cent.)		214
,, Acidi Carbolici (6 per cent.)		9
,, ,, Salicylici (4 per cent.)		28
,, Eucalypti		189
,, Ferri Perchloridi		197
,, Iodoformi (4, 10, and 50 per cent.)		241
,, Menthol		269
Gouania Domingensis		413
Gouttes de Baumé	1 to 8 m.	293
Gowers' Solution for Hæmacytometer		393

NAME.	DOSE.	PAGE
Granular Effervescent		
Antipyrine	1 dr. or more.	136
Carlsbad Salt	,,	
Citrate of Bismuth	,,	
,, ,, Caffeine	,,	88
,, ,, ,, with Bromide of Potassium	,,	88
,, ,, Iron	,,	
,, ,, Iron and Quinine ...	...1 dr. or more	349
,, ,, Lithium	,,	262
,, ,, Magnesium	,,	
,, ,, Potassium	,,	
Citro-Tartrate of Sodium	,,	
Ferro-Magnesian Sulphate	,,	204
Hydrobromate of Caffeine	,,	68
Phosphate of Sodium	,,	367
,, ,, (Off.)	½ to ½ oz.	368
Piperazine...	...1 dr. or more	336
Pullna Salt...	,,	369
Salicylic Acid	,,	27
Salicylate of Lithium	,,	263
Salicylate of Sodium	,,	29
Sodio-Magnesian Aperient	,,	369
Sulphate of Magnesium	½ to 1 oz.	370
,, Sodium	...1 dr. or more	369
,, ,, (Off.)	½ to ½ oz.	369
Vichy Salt...	...1 dr. or more	
Granules de Digitaline	2 to 4	176
,, of Hyoscyamine	1 hourly	234
Green Mountain Cure		342
Grey Oil (Mercurial)		218
Grindelia		214
Guaiacate of Lithium	5 gr.	262
Guaiacol	½ to 2 m.	171
,, Benzoyl-ester	4 to 12 gr.	172
,, Carbonate	3 to 8 gr.	172
Guarana	10 to 60 gr.	215
Guaranine	½ to 5 gr.	87,215
Gunsberg's Test for Mineral Acids		418
Gurjun Balsam	½ to 2 dr.	77
Guttæ Atropinæ Sulphatis, R.O.H.,	1 to 4 grs. in 1 oz.	72
,, ,, cum Alumine		72
,, ,, ,, Cocaina...		72
,, ,, ,, Zinco		72
,, Benzol	30 drops on sugar	130
,, Daturinæ, 2 gr. in 1 oz.		175
,, Duboisinæ Sulphatis		178

NAME.	DOSE.	PAGE
Guttæ Eserinæ, R.O.H., 2 gr. in 1 oz.		326
,, Homatropinæ		75
,, Physostigminæ		326
,, ,, Fortiores		326
,, Pilocarpinæ, 2 gr. in 1 oz.		254
,, Zinci Chloridi		405
,, ,, ,, cum Cocaina		405
Gynocardia Odorata		298
Gypsum		259
Hæmatoxylin		216
Hæmatoxylum		216
Hæmogallol.	2 to 8 gr.	413
Hæmol	2 to 8 gr.	413
Hair Dye of Bismuth		81
,, ,, of Hydrogen Peroxide		228
,, ,, of Potassium Permanganate		266
,, ,, of Silver Nitrate		65
Haller's Acid Elixir	2 to 8 m.	181
Halvira	5 to 30 m.	413
Hamamelidin, *syn.* Hamamelin	½ to 2 gr.	217
Hamamelidis Cortex et Folia		216
Hartmann's Wood Wool		335
Haustus Chloralamidi	1 oz.	107
,, Santonini et Olei Ricini		362
,, Sulphonal	1 oz.	379
Hazeline		216
Heberden's Ink	1 to 2 oz.	122
Heim's Pills, see Pilulæ.		
Helenin	1-3 to 2 gr.	238
Hellebore, Green	1 to 5 gr.	403
Hemlock Pitch Bark		410
Henna		413
Himrod's Cure for Asthma		342
Histological Preparations		424
Hoang-Nan		413
Hoffman's Anodyne		45
Homatropinæ Hydrobromas	1-80 to 1-20 gr.	75
,, Hydrochloras	1-120 to 1-20 gr.	74
,, Salicylas	1-120 to 1-20 gr.	74
Homatropine		74
Homolle's Granules of Digitalin		176
Homo-napelline		38
Homotoluic Acid	1 to 3 gr.	128
Huile de Cade		338
Huxham's Tincture of Bark	½ to 2 dr.	122
Hydracetin	½ to 3 gr. daily	132

Name.	Dose.	Page
Hydramyl		162
Hydramyl Ether		44
Hydrargyri Benzoas		218
,, Bichloridum=Perchloridum	1-16 to 1-8 gr.	220
,, Carbolas	½ to 2 gr.	218
,, Chloridum=Subchloridum	½ to 5 gr.	
,, Chloridum Corrosivum, U.S.=Perchloridum.		220
,, Chloridum Mite, U.S.=Subchloridum.		
,, Cyanidum	1-20 to 1-6 gr.	219
,, et Potassii Iodidum	1-16 to 1-4 gr.	220
,, Imido-succinas		223
,, *Iodidum Rubrum*	1-32 to 1-8 gr.	219
,, ,, Viride	1-6 to 1 or 3 gr.	220
,, Lanolinum		261
,, Naphthol-Acetas	¾ gr.	225
,, *Nitrico-Oxidum*	¼ to 1 gr.	
,, Oleatum, 5, 10, and 20 per cent.		295
,, ,, cum Morphina		295
,, Oleo-Palmitas		296
,, *Oxidum Flavum*		224, 225
,, *Oxidum Rubrum*	¼ to 1 gr.	
,, *Perchloridi Liquor*	30 to 120 m.	221
,, *Perchloridum*	1-16 to 1-8 gr.	220
,, *Pilula*	3 to 8 gr.	
,, Salicylas	¼ gr.	223
,, *Subchloridi, Co. Pilula*	5 to 10 gr.	
,, *Subchloridum*	½ to 5 gr.	
,, Succinimidum		223
,, Tannas	1½ gr. thrice daily	224
,, Thymol-Acetas	¾ to 1½ gr.	225
Hydrargyrum		218
,, *cum Cretâ*	3 to 8 gr.	
,, Bijodatum, P.G.=Iodid. Rub.		219
,, Jodatum, P.G.=Iodid. Vir.		220
Hydrastin (Eclectic)	2 to 6 gr.	226
Hydrastina (Alkaloid)	½ to 5 gr.	226
Hydrastinæ Hydrochloras	½ to 6 gr.	226
Hydrastinina		226
Hydrastininæ Hydrochloras	½ to 1½ gr.	226
Hydrastis Rhizoma	10 to 30 gr.	225
Hydrate of Amylene	30 to 90 m.	58
,, Benzoyl	3 to 15 gr.	1
,, Bromal	2 to 5 gr.	84
,, *Butyl-Chloral*	2 to 15 gr.	86
,, *Chloral*	5 to 30 gr.	104
Hydride of Amyl, or Hydramyl		162

Name.	Dose.	Page.
Hydriodic Ether		48
Hydrobromic Acid, Diluted	20 to 60 m.	17
,, Ether		47
Hydrochinon	½ to 5 gr.	230
Hydrochloric Acid	2 to 10 m.	
Hydrocinnamic Acid	1 to 3 gr.	128
Hydrocotyle Asiatica	4 to 10 gr.	413
Hydrocyanic Acid, diluted	2 to 8 m.	
Hydrofluoric Acid		18
Hydrogen, Peroxide of	½ to 2 dr.	228
Hydronaphthol		284
Hydroquinine		120
Hydroquinone	½ to 5 gr.	230
Hydroxyl, Solution of	½ to 2 dr.	228
Hydroxylamine		414
,, Hydrochlorate of		414
Hygrine		141
Hymenodictyon Excelsum		414
Hyoscina		69, 231
Hyoscinæ Hydrobromas	1-300 to 1-100 gr.	231
,, Hydrochloras	1-300 to 1-100 gr.	232
,, Hydriodas	1-300 to 1-100 gr.	232
Hyoscyamina	1-120 to 1-40 gr.	69, 233
Hyoscyaminæ Sulphas	1-120 to 1-40 gr.	234
Hyoscyamine	1-120 to 1-40 gr.	69, 233
,, Amorphous	1-16 to 1-8 gr.	233
,, Sulphate	1-120 to 1-40 gr.	234
Hyperosmic Acid, sol. 1 per cent.	2 to 10 m. daily	21
Hypnal	15 gr.	138
Hypnone	1½ to 5 m.	127
Hypobromite of Sodium, Solution		366
Hypodermic Injections, see Injectio		
,, ,, with Vaseline Oil		310
Hypodermic Lamels :—		
Apomorphine	1-10 gr.	63
Atropine	1-120, 1-100 gr.	71
Caffeine	¼ gr.	89
Cocaine	¼ gr.	147
Codeine	¼ gr.	160
Curare	1-20 gr.	174
Curarine	1-400 gr.	174
Digitalin	1-100 gr.	177
Ergotin	½ gr.	183
Hyoscine	1-200 gr.	232
Hyoscyamine	1-50 gr.	234
Morphine	¼ gr.	278

NAME.	DOSE.	PAGE
Hypodermic Lamels :—		
Morphine Atropine...	¼ gr. 1-120 gr.	71,278
Morphine Tartrate	1-6 gr.	281
Morphine Tartrate Atropine...	1-6 gr. 1-100 gr.	281
Physostigmine	1-100 gr.	326
Pilocarpine	¼ gr.	254
Quinine	½ gr.	349
Sclerotinic Acid	1-16 gr.	185
Sparteine...	1 gr.	371
Strychnine	1-60 gr.	378
Hypophosphites		320
Hypophosphorous Acid...	2 to 5 m.	321
Hyposulphite of Sodium	10 to 60 gr.	37
Ichthyol		235
,, Paste		236
Ignatia Amara Beans		293
Indian Hemp		98
,, ,, White		411
Indigo-carmine Papers...		388
Inein		373
Infusum Abri		1
,, Adonidis Vernalis	4 dr.	410
,, *Anthemidis*	1 to 4 oz.	60
,, *Aurantii*	1 to 2 oz.	
,, *Aurantii Compositum*	1 to 2 oz.	
,, *Buchu*	1 to 4 oz.	
,, *Calumbæ*	1 to 2 oz.	
,, *Caryophylli*	1 to 4 oz.	
,, *Cascarillæ*	1 to 2 oz.	
,, *Catechu*	1 to 2 oz.	
,, *Chiratæ*	1 to 2 oz.	
,, *Cinchonæ Acidum*	1 to 2 oz.	123
,, Cocæ	4 to 8 oz.	141
,, Condurango	½ to 2 oz.	164
,, *Cuspariæ*	1 to 2 oz.	
,, *Cusso*	4 to 8 oz.	
,, *Digitalis*	¼ to ½ oz.	
,, *Ergotæ*	1 to 2 oz.	182
,, *Gentianæ Compositum*	1 to 2 oz.	
,, Gokhru	20 oz. daily.	213
,, *Jaborandi*	1 to 2 oz.	252
,, Kava-Kava	half a pint	414
,, *Krameriæ*	1 to 2 oz.	
,, *Lini*	*ad libitum.*	

NAME.	DOSE.	PAGE
Infusum Lupuli	1 to 2 oz.	
„ Malti	¼ to ½ oz.	265
„ *Maticæ*	1 to 4 oz.	
„ Menyanthis	2 to 6 oz.	271
„ *Quassiæ*	1 to 2 oz.	
„ *Rhei*	1 to 2 oz.	
„ *Rosæ Acidum*	1 to 2 oz.	
„ Rubi Chamæmori	½ oz.	416
„ *Senegæ*	1 to 2 oz.	
„ *Sennæ*	1 to 2 oz.	
„ *Serpentariæ*	1 to 2 oz.	
„ *Uvæ Ursi*	1 to 2 oz.	
„ *Valerianæ*	1 to 2 oz.	
„ Vinoæ Majoris	a wine-glassful	418
Ingluvin	5 to 10 gr.	238
Injectio Acidi Osmici Hypodermica		22
„ „ Sclerotici Hypodermica	3 to 5 m.	185
„ Aconitinæ Hypodermica	1 to 2 m.	39
„ Antipyrin Hypodermica	8 to 30 m.	136
„ „ et Cocainæ Hypodermica	8 to 30 m.	136
„ Apomorphinæ Hypodermica	3 to 10 m.	62
„ *Apomorphinæ Hypodermica*	2 to 8 m.	62
„ Argenti Hypodermica	2 to 10 m.	65
„ Atropinæ Hypodermica	1 to 4 m.	71
„ Caffeinæ Hypodermica	1 to 3 m.	89
„ Cantharidin (Liebreich's)		101
„ Cocainæ Hydrochloratis Hypodermica	2 to 10 m.	147
„ Codeinæ Hypodermica	2 to 6 m.	160
„ Colchicinæ Hypodermica		162
„ Coninæ Hydrobromatis Hypodermica	1 to 3 m.	165
„ Cotoin Hypodermica	15 m.	168
„ Curare Hypodermica	1 to 6 m.	173
„ *Ergotini Hypodermica*	3 to 10 m.	183
„ Ergotininæ Hypodermica	5 to 10 m.	184
„ Ferri Perchloridi		197
„ Guaiacol		171
„ Homatropinæ Hypodermica	1 to 6 m.	75
„ Hydrargyri Hypodermica		219
„ Hydrargyri Iodidi Rubri Hypodermica	2 to 6 m.	220
„ Hydrargyri Oxidi Flavi		224
„ „ „ „ cum Asparagin		225
„ „ „ „ cum Formamido		225
„ Hydrargyri Succinimidi		224
„ Hydrargyri Thymolacetatis		22

NAME.	DOSE.	PAGE
Injectio Hyoscinæ Hypodermica	1 to 2 m.	231
,, Hyoscyaminæ Hypodermica	1 to 4 m.	234
,, Iodi Hypodermica Fortissima	3 to 5 m.	247
,, Morphinæ Acetatis Hypodermica,	1 to 3 m.	277
,, Morphinæ et Atropinæ Hypodermica	1 to 3 m.	278
,, *Morphinæ Hypodermica*	1 to 5 m.	277
,, Morphinæ Tartratis Hypodermica	1 to 6 m.	281
,, Nitroglycerini Hypodermica	1 to 4 m.	289
,, Physostigmatis Hypodermica	3 to 12 m.	325
,, Physostigminæ Salicylatis Hypodermica	1 to 6 m.	326
,, Physostigminæ Sulphatis Hypodermica	1 to 4 m.	326
,, Picrotoxini Hypodermica	3 to 6 m.	328
,, Pilocarpinæ Nitratis Hypodermica	2 to 6 m.	254
,, Potassii Cantharidatis (Liebreich)		101
,, Pyoktanin		139
,, Quininæ Hydrobromatis Acidæ Hypodermica	3 to 12 m	349
,, Quininæ Hydrochloratis Acidæ Hypodermica	3 to 12 m.	*350*
,, Quininæ Sulphatis Acidæ Hypodermica	4 to 18 m.	354
,, Sal Alembroth Hypodermica		*223*
,, Strychninæ Nitratis Hypodermica	2 to 6 m.	377
,, Strychninæ Sulphatis Hypodermica	2 to 6 m.	378
,, Tuberculin (Koch		399
,, Tuberculocidin (Klebs)		401
,, Zinci Chloridi (Lannelongue)		407
Ink, Heberden's	1 to 2 oz.	122
Insufflatio Eucalypti Gummi, ¼ gr. in each		191
,, Iodoformi, 1 gr. in each		240
,, ,, Composita		240
Inula Helenium		238
Iodantipyrin, *syn.* Iodopyrin	5 to 20 gr.	138
Iodide of Ammonium	3 to 20 gr.	54
,, *Arsenium*	1-30 gr.	67
,, Ethyl Capsules, 5 m. in each		48
Iodine		247
Iodized Solution, Carbolised		9
,, Starch	½ to 4 dr.	249
,, ,, Paste of		249
,, Wool		247
,, Phenol		10
Iodoform	½ to 3 gr.	239
,, and Eucalyptus Bougies		240

NAME.	DOSE.	PAGE
Iodoform Gauze, 10 per cent.		241
,, Lint, 10 per cent.		241
,, Pencils		241
,, Varnish (Whitehead's)		241
,, Wool, 4, 10, and 50 per cent.		241
Iodoformum	½ to 3 gr.	239
,, Aromaticum		240
,, Precipitatum	½ to 3 gr.	239
Iodo-Glycerine Solution, 10 gr. in 1 oz.		247
Iodo-Mercurate of Cinchonine		124
,, ,, of Potassium, Papers of		391
,, ,, ,, Solution		392
Iodo-Salicylic Acid		245
Iodo-Vaseline		242
Iodol		245
Iodophenin		134
Iodopyrin	5 to 20 gr.	138
Iodum		247
Ipecacuanha	½ to 2 gr. expectorant 15 to 30 gr. emetic.	250
,, sine Emetina		250
Iridin, *Syn.* Irisin	1 to 5 gr.	251
Iron Alum	3 to 10 gr.	204
,, Bromide of	3 to 10 gr.	194
,, Carbonate of		195
,, *Dialysed*	10 to 30 m.	198
,, Perchloride of	2 to 8 gr.	196
,, *Phosphate of*	2 to 10 gr.	201
,, ,, U.S.	2 to 8 gr.	201
,, Pyrophosphate, U.S.	2 to 8 gr.	323
,, Salicylate of	3 to 10 gr.	28
Isatropyl Cocaine		144
Isobutyl Nitrite	2 to 5 m. inhaled	58
Jaborandi	5 to 60 gr.	251
Jaborine		252
Jacaranda Lancifoliata		414
,, Tomentosa		414
Jalapa	10 to 30 gr.	257
Jalapæ Resina	2 to 5 gr.	257
Jalapin	1 to 5 gr.	257
Jalapurgin	1 to 5 gr.	257
Jamaica Chewstick		413
,, Dogwood		336
Jambul	5 to 30 gr.	257
Jamun, *syn.* Jambul		257
Japanese Aconite		410

NAME.	DOSE.	PAGE
Japanese Belladonna		417
„ Isinglass		411
„ Peppermint Oil		268
Jarisch's Ointment		24
Jasmine, Yellow		295
Jatropha Curcas		414
Jennings' Saline Solution		363
Jequirity Seed		1
Jervine		403
Juglandin	2 to 5 gr.	258
Jumble Beads		1
Juniper Tar		338
Kamala	30 to 120 gr.	
Kairine	5 to 8 or 15 gr.	132
Kaladana		415
Kaolin Præparatum		258
Kariyat, *syn.* Kreat		413
Kava-Kava		414
Keratine		333
„ Coating for Pills		332
Kieselguhr		259
Kochin, *syn.* Koch's Fluid, Tuberculin		399
Kola Nut		87, 88
Koromiko		414
Kreat, Kreat Halviva	5 to 30 m.	413
Kreosote	1 to 3 m.	169
La Bourboule Water		67
Lac Sulphuris	20 to 60 gr.	382
Lachnanthes Tinctoria		414
Lactate of Calcium	1 to 5 gr.	19
„ Iron	2 to 10 gr.	19
„ Quinine	1 to 5 gr.	350
„ Zinc	3 to 30 gr.	407
Lactic Acid	5 to 20 m.	19
„ „ *Diluted*	30 to 120 m.	19
Ladies' Slipper		174
Lamellæ Atropinæ	1-5000 gr.	71
„ *Cocainæ Hydrochloratis*	1-200 gr.	147
„ *Physostigminæ*	1-1000 gr.	325
Lanæ Adeps		260
Lannelongue's Treatment of Tuberculosis		407
Lanoline, syn. Adeps Lanæ Hydrosus		260
„ Anhydrous, *syn. Adeps Lanæ*		260
„ Cold Cream		261
„ Cream		261
„ Ointment		261

Name.	Dose.	Page
Lanolinum Hydrargyri		261
Lapis Calaminaris Præparatus		259
,, Divinus		53
Larch Agaric	10 to 30 gr.	48
Laricic Acid	1-12 to 1-6 gr.	49
Lassar's Paste		408
Lawsonia Inermis		413
Leptandrin	¼ to 2 gr.	261
Levico Water, mild and strong	½ oz.	67
Liebig's Extract of Beef		193
Liebreich's Pepsin-Essenz	1 to 2 dr.	313
,, Solution of Cantharidate of Potassium		101
Ligatures, Carbolised		9
Light Atropine		69
Lily of the Valley		166
Linctus Morphinæ	60 m.	2[illegible]9
Linimentum Aconiti		40
,, Atropinæ, 1 in 120		71
,, *Belladonnæ*		80
,, Belladonnæ Compositum		80
,, Calaminæ		259
,, Capsici		102
,, *Chloroformi*, 1 in 2		114
,, Crinale		100
,, Exsiccans		397
,, Hydrargyri Oleatis c. Morphina		295
,, *Iodi*, 1 in 8		247
,, Menthol		269
,, Opii Ammoniatum		55
,, Scopolæ		416
Lint, Marine		337
Linteum Acidi Borici		4
,, Ferri Perchloridi		197
,, Iodoformi		241
Lipanin		294
Liquor Acidi Chromici, 1 to 3		17
,, ,, Osmici, 1 per cent.	2 to 10 m.	22
,, ,, Picrici	½ to 3 dr.	23
,, ,, Salicylici		27
,, Acidus Halleri	2 to 8 m.	181
,, Æthyl Nitritis	10 to 60 m.	45
,, Aluminii Acetici		52
,, ,, Chloridi		53
,, *Ammoniæ*	10 to 20 m.	55
,, ,, *Fortior*	3 to 6 m.	55
,, Ammoniæ Fortissimus		55

Name.	Dose.	Page
Liquor *Ammonii Acetatis*	2 to 6 dr.	56
,, ,, *Acetatis Fortior*	25 to 75 m.	56
,, ,, *Citratis*	2 to 6 dr.	56
,, ,, *Citratis Fortior*	½ to 1½ dr.	56
,, *Antimonii Chloridi*		61
,, Antisepticus		125
,, *Arsenicalis*	2 to 8 m.	66
,, Arsenici Bromatus	1 to 5 m.	66
,, ,, *Hydrochloricus*	2 to 8 m.	66
,, *Arsenii et Hydrargyri Iodidi*	5 to 15 m.	67
,, Atropinæ Salicylatis		71
,, ,, *Sulphatis*, 1 per cent.	1 to 4 m.	71
,, *Bismuthi et Ammonii Citratis*	30 to 60 m.	81
,, Bromi Arsenitis (Clemens)	1 to 5 m.	66
,, *Calcii Chloridi*	15 to 50 m.	91
,, *Calcis*	1 to 4 oz.	
,, ,, *Saccharatus*	15 to 60 m.	
,, Carbonis Detergens		124
,, Carmini, 40 gr. to 1 oz.		104
,, *Chlori*	10 to 20 m.	
,, Chloromorphiæ	5 to 20 m.	114
,, Cocci		104
,, *Cocainæ Hydrochloratis*	2 to 10 m.	148
,, *Epispasticus*		100
,, ,, Fortior		101
,, Ergotæ Aceticus	10 to 60 m.	184
,, ,, Ammoniatus	10 to 60 m.	184
,, *Ferri Acetatis*	5 to 30 m.	201
,, ,, ,, *Fortior*	1 to 8 m.	201
,, ,, Albuminati	1 to 4 dr.	199
,, ,, Chloroxidi	10 to 30 m.	198
,, ,, *Dialysatus*	10 to 30 m.	198
,, ,, Hypophosphitis Compositus	½ to 2 dr.	322
,, ,, ,, Fortis	10 to 30 m.	322
,, ,, Oxychlorati		198
,, ,, Peptonati	1 to 4 dr.	200
,, ,, ,, cum Quinina	1 to 4 dr.	200
,, ,, *Perchloridi*	10 to 30 m.	196
,, ,, ,, *Fortior*	2 to 8 m.	197
,, ,, *Pernitratis*	10 to 40 m.	
,, Ferro-Manganesii Peptonati	1 to 4 dr.	201
,, Gelsemininæ Hydrochloratis, 1 in 60		206
,, Glonoini	½ to 2 m.	289
,, *Hydrargyri Perchloridi*	½ to 2 dr.	221
,, Hyoscinæ Hydrobromatis	3 to 15 m.	231
Hypophosphitum Compositus	½ to 2 dr.	322

NAME.	DOSE.	PAGE
Liquor Iodi	5 to 30 m.	247
,, Jaborandi (Ext. Fluid)	10 to 60 m.	252
,, *Lithiæ Effervescens*	5 to 10 oz.	
,, Magnesii Boratis		6
,, ,, *Carbonatis*	1 to 2 oz.	
,, ,, *Citratis*	5 to 10 oz.	
,, *Morphinæ Acetatis*, 1 per cent.	10 to 60 m.	278
,, ,, *Bimeconatis* ,,	5 to 40 m.	280
,, ,, *Hydrochloratis* ,,	10 to 60 m.	279
,, ,, *Sulphatis* ,,	10 to 60 m.	280
,, *Nitroglycerini*	½ to 2 m.	289
,, Pancreaticus	1 to 2 dr.	302
,, Pepticus	1 to 2 dr.	313
,, Picis Carbonis		124
,, ,, ,, et Ligni		125
,, ,, Ligni		125
,, Picrotoxini Aceticus	2 to 12 m.	328
,, Plumbi Lactatis		210
,, *Potassæ*	15 to 60 m.	
,, Potassæ Arsenitis	3 to 8 m.	66
,, *Potassii Permanganatis*	2 to 4 dr.	263
,, *Sodæ*	10 to 30 m.	
,, ,, *Chlorinatæ*	10 to 20 m.	
,, *Sodii Arseniatis*	5 to 10 m.	68
,, ,, Carbolatis		14
,, ,, *Ethylatis*		365
,, Stillingiæ Compositus	1 to 4 dr.	372
,, *Strychninæ Hydrochloratis*	4 to 10 m.	376
,, Thymol, 1 in 800		395
,, *Trinitrini*	½ to 2 m.	289
,, *Zinci Chloridi*, 4 m. = 3 gr.		405
Liquorice		212
,, *Compound Powder of*	10 to 60 gr.	213
,, Indian		1
Lithii Benzoas	2 to 10 gr.	262
,, Bromidum	5 to 15 gr.	262
,, *Carbonas*	3 to 6 gr.	262
,, *Citras*	5 to 10 gr.	262
,, ,, Effervescens	1 to 2 dr.	262
Guaiacas	2 to 5 gr.	262
Hippuras	5 to 20 gr.	262
,, Salicylas	5 to 20 gr.	263
,, ,, Effervescens	1 to 2 dr.	263
,, Sulpho-Ichthyolas	10 to 30 gr. daily	235
Logwood		216
London Paste		366

NAME.	DOSE.	PAGE
Lotiforms of Sublimated Wool		221
Lotio Acidi Benzoici		2
,, ,, Borici		4
,, ,, Carbolici		9
,, Calaminæ		260
,, Calcii Sulphurati		93
,, Hamamelidis		217
,, *Hydrargyri Flava*		220
,, ,, *Nigra,* Calomel 3 gr. to Lime Water 1 oz		
,, Perchloridi		221
,, Pilocarpinæ (for the hair)		254
,, Plumbi cum Lacte		210
,, Plumbi Lactatis		210
,, Rubra		408
,, Sulphatum		403
Lugol's Solution	5 to 10 m.	247
Lunar Caustic		64
,, *Mitigated*		65
,, *Toughened*		65
Lund's Oil		9
Lupulin	2 to 5 gr.	263
Lupulinæ, Tinctura	10 to 60 m.	263
Lycaconitine		410
Lycoperdon Giganteum		415
Lycopodium		263
Lysol		125
Lytta	1-16 to ½ gr.	99
Magendie's Solution of Morphine, 16 in 1 oz. gr.		280
Magenta	½ to 4 gr.	131
Magnesia Levis	10 to 60 gr.	
,, *Ponderosa*	10 to 60 gr.	
Magnesii Boras		6
,, *Carbonas Levis*	10 to 60 gr.	
,, *Carbonas Ponderosa*	10 to 60 gr.	
,, *Sulphas*	1 to 4 dr.	
,, ,, *Effervescens*	¼ to 1 oz.	370
Maidis Stigmata		415
,, Ustilago		415
Male Fern		204
,, ,, Capsules		204
Malti Pulvis	1 to 2 dr.	264
Malto-Viburnin	1 to 4 dr.	418
Malto-Yerbine	1 to 4 dr.	418
Maltum		264
Manaca		415
ndragora Officinalis		415

NAME.	DOSE.	PAGE
Manganesii Hypophosphis	1 to 10 gr.	266
,, Oxidum Precipitatum	3 to 10 gr.	265
,, Phosphas	1 to 5 gr.	266
,, Sulphas	2 to 10 gr. or more	266
Manganesium		265
Manna	1 dr. to 1 oz.	
Marigold		91
Marine Lint		337
Marking Nut		59
Marsh Trefoil		271
Mass for Pessaries		211
Mastiche	1 to 20 gr.	
Maté		83
Mayer's Reagent		392
McDade's Mixture	1 to 4 dr.	372
Meat Extract		193
Meat Juice, Valentine's		193
,, Lozenges		193
Meconic Acid		21
Menispermin	1 to 5 gr.	268
Menstruation Diapers of Wood Wool		335
Menthol	½ to 2 gr.	268
,, cum Aconitina		270
,, cum Camphora		269
,, Plaster		269
,, Wool		269
Mentholeate		270
Menyanthes		271
Menyanthin		271
Mercur-β-Naphthol Acetate	¾ gr.	225
Mercuro-Zinc Cyanide		219
,, ,, ,, Gauze		219
Mercurous Tannate	1½ gr.	224
Mercury, Asparagin		225
,, Formamide		225
,, Nitroso-Nitrate of		390
,, *Oleate of*		295
,, ,, with Morphine		295
,, Oleo-Palmitate of		296
,, *Perchloride of*	1-16 to 1-8 gr.	220
,, ,, ,, Wood Wool		221
,, Plaster of Oleo-Palmitate		296
Metaldehyde	2 to 8 gr.	60
Methacetin	2 to 6 gr.	133
Methyl-acetanilide	2 to 6 gr.	130
Methylal	15 to 30 m.	273

NAME.	DOSE.	PAGE
Methyl Chloridum		272
Methyl-Orange		393
Methyl Thebaine		287
,, Violet		139
Methylene		274
,, Blue	1 to 4 gr.	133
Methysticin		414
Metrical Weights and Measures		vi.
Microcidine		284
Microscopic Reagents		421
Milk, Artificial Human		304
Milk, Peptonised		302
Millon's Reagent		390
Mistletoe	10 to 60 gr.	418
Mistura Ammoniaci	½ to 1 oz.	
,, *Amygdalæ*	1 to 2 oz.	
,, Amyl Nitritis	1 to 2 dr.	57
,, Apomorphinæ et Terebenæ	1 oz.	63
,, Butyl-Chloral	1 oz.	86
,, *Creasoti*	1 to 2 oz.	169
,, *Cretæ*	1 to 2 oz.	
,, Exalgin	½ to 1 oz.	131
,, Ferri Amara	1 oz.	197
,, ,, Aperiens	1 oz.	198
,, ,, *Aromatica*	1 to 2 oz.	122
,, ,, Arsenicalis	½ to 1 oz.	198
,, ,, *Composita*	1 to 2 oz.	
,, ,, Perchloridi	1 oz.	198
,, ,, Salina	1 oz.	198
,, Gentianæ	½ to 1 oz.	
,, Gentianæ Composita, P.L.	½ to 2 oz.	
Inf. Gent. Co., 12 oz. Inf. Sennæ Co., 6 oz. Tr. Card. Co., 2 oz.		
,, Grindeliæ	1 oz.	215
,, *Guaiaci*	½ to 2 oz.	
,, Guaiacol		171
,, Mucilaginosa		63
,, *Olei Ricini*	½ to 2 oz.	300
,, ,, Santali	1 oz.	301
,, *Scammonii*	½ to 2 oz.	
,, *Sennæ Composita*	1 to 1½ oz.	
,, *Spiritus Vini Gallici*	1 to 2 oz.	
,, Terebinthinæ Chiæ	1 to 3 dr.	387
Mollinum		275
,, Hydrargyri		275

Name	Dose.	Page
Mollinum Potassii Iodidi		275
Momordicin	1-40 to 1-6 gr.	179
Monobrom acetanilide	3 to 15 gr.	127
Monobromated Camphor	2 to 10 gr.	96
Monobromphenylacetamide	3 to 15 gr.	127
Monochlorethyl Chloride		186
Monochlorphenol		15
Monophenylamine		128
Morphina	1-10 to ½ gr.	276
Morphinæ Acetas	1-8 to ½ gr.	276
,, Hydrobromas	1-8 to ½ gr.	279
,, *Hydrochloras*	1-8 to ½ gr.	279
,, Meconas	1-8 to ½ gr.	280
,, Oleatum, 1 in 60		276
,, *Sulphas*	1-8 to ½ gr.	280
,, Tartras	1-8 to ½ gr.	281
Morphine	1-10 to ½ gr.	276
Morrhuæ Oleum		299
Morrhuol		300
Morton's Fluid		247
Moschus	5 to 10 gr.	
Mucilago Acaciæ, 2 fl. oz.=1 oz. gum	*ad libitum.*	
,, *Amyli*, 12 gr. to 1 oz.		
,, *Tragacanthæ*	1 dr. to 1 oz.	397
Mullein, Great		404
Mulls, Plaster		421
Muscarinæ Nitras	½ to ¾ gr.	282
Mynsicht's Elixir of Vitriol	3 to 10 m.	181
Myoctonine		410
Myrabolanus Emblica	1 or 2	182
Myrica Gale		411
Myricin	2 to 5 gr.	282
Myrrh	10 to 20 gr.	
Myrtol	2 to 5 m.	415
Myrtus Chekan		412
Napelline		38
Naphthalene	2 to 10 gr.	285
,, Dichloro-		285
,, Tetrachloride	3 to 12 gr.	285
Naphthalin, *syn.* Naphthalene		285
Naphthol, α- and β-		283
,, Camphor		284
,, Mercury	¾ gr.	225
Naphthyl Alcohol	2 to 15 gr.	283
Narceina	1-8 to 1 gr.	286
Narcotina	1 to 3 gr.	287

Name.	Dose.	Page
Nasal Douches—Collunaria		
Nataloin	1 to 4 gr.	51
Nebula Acidi Lactici, 1 in 16		19
,, Ferri Perchloridi, 3 gr. in 1 oz.		197
Nectandra Rodiæi		77
Nepaul Aconite		410
Nepenthe=strength of Tr. Opii.	5 to 30 m.	
Nessler's Solution for Ammonia		392
Nicotina	1-6 to 1 gr.	287
Nitrite of Æthyl		45
,, *Amyl*	½ to 1 m. by mouth 2 to 5 m. inhaled	56
,, Isobutyl	2 to 5 m. inhaled	58
,, Sodium	2 to 5 gr.	367
Nitroglycerine	1-200 to 1-50 gr. or more	287
,, *Solution*	½ to 2 m. or more	289
,, *Tablets*	1-200, 1-100, 1-50 & 1-25 gr. in each	289
Nitrometer, Allen's		56
Nitrous Ether		45, 50
,, Oxide Gas		55
Nux Vomica	1 to 5 gr.	293
Oil, Sterilised		171
,, Vaseline		310
,, of Wine		45
Oiled Silk Protective		10
Oleanodyne		294
Oleata		293
Oleate of Copper		294
,, *Mercury*		295
,, ,, and Morphine		295
,, *Zinc*		297, 298
Oleatum Aconitinæ, 1 gr. in 50 m.		39
,, Atropinæ, 1 in 40		72
,, Cocainæ		145
,, *Hydrargyri*, 5, 10, and 20 per cent.		295
,, ,, cum Morphina		295
,, Morphinæ, 1 gr. in 60 m.		276
,, Plumbi		296
,, Quininæ, 1 in 4		294
,, Veratrinæ, 1 in 50		404
,, *Zinci*		297
Oleic Acid		293
Oleo-resina Cubebæ	5 to 30 m.	172
Oleum Æthereum		45
,, *Anethi*	1 to 3 m.	
,, *Anisi*	1 to 3 m.	

NAME.	DOSE.	PAGE
Oleum Anthemidis	2 to 5 m.	
,, Betulæ Pyroligneum		338
,, *Cadinum*		338
,, *Cajuputi*	1 to 4 m.	
,, *Carui*	1 to 5 m.	
,, *Caryophylli*	1 to 2 m.	
,, *Cinnamomi*	1 to 3 m.	
,, *Copaibæ*	5 to 20 m.	
,, *Coriandri*	1 to 5 m.	
,, *Crotonis*	1-3 to 1 m.	
,, *Cubebæ*	5 to 20 m.	172
,, cum Cocaina, 2 per cent.		145
,, Deelinæ		311
,, *Eucalypti*	1 to 5 m.	188
,, Fagi Pyroligneum		338
,, Gaultheriæ	10 m.	27
,, Gynocardiæ	2 to 15 gr.	298
,, Homatropinæ		75
,, ,, cum Cocaina		75
,, *Juniperi*	3 to 5 m.	
,, ,, Pyroligneum		338
,, *Lavandulæ*	1 to 5 m.	
,, *Limonis*	1 to 5 m.	
,, *Menthæ Piperitæ*	2 to 5 m.	
,, ,, *Viridis*	2 to 5 m.	
,, *Morrhuæ*	1 to 8 dr.	290
,, ,, cum Æthere	2 dr.	41
,, ,, cum Quinina	1 to 4 dr.	294
,, ,, Phosphoratum	1 to 4 dr.	317
,, *Myristicæ Expressum*	1 to 5 m.	
,, Nitroglycerini, 1 per cent.	1 to 2 m.	289
,, *Olivæ*	¼ to 1 oz.	
,, *Phosphoratum*	1 to 4 m.	317
,, Picis Rectificatum		337
,, *Pimentæ*	1 to 5 m.	
,, Pini Pumilionis		335
,, ,, *Sylvestris*		334
,, *Ricini*	1 to 8 dr.	300
,, *Rosmarini*	1 to 5 m.	
,, Rusci Pyroligneum		338
,, *Rutæ*	1 to 5 m.	
,, *Sabinæ*	1 to 5 m.	
,, *Santali*	10 to 30 m.	300
,, Staphisagriæ		176
,, *Terebinthinæ*	10 m. to 4 dr.	384
,, ,, Gallicum	30 m. every ½ hour.	315

NAME.	DOSE.	PAGE
Ophthalmic Discs :—		
Alum	1-250 gr.	53
Atropine	1-500, 1-250 gr.	71
,, B.P.	1-5000 gr.	71
Borax	1-250 gr.	
Cadmium Sulphate	1-250 gr.	
Cocaine	1-100, 1-50 gr.	143
,, B.P.	1-200 gr.	147
Cocaine Atropine	1-200 gr. 1-5000 gr.	71
Cocaine Homatropine	1-200 gr. 1-5000 gr.	75
Cocaine Homatropine	1-200 gr. 1-200 gr.	75
Cocaine Physostigmine	1-200 gr. 1-1000 gr.	323
Copper Sulphate	1-250 gr.	
Daturine	1-5000 gr.	175
Duboisine	1-5000 gr.	178
Gallic Acid	1-250 gr.	
Gelseminine	1-500 gr.	206
Homatropine	1-5000 gr.	75
Hyoscine	1-500, 1-200 gr.	233
Hyoscyamine	1-5000 gr.	234
Iodoform	1-1000 gr.	241
Lead Acetate	1-500 gr.	
Lead Opium	1-500 gr. 1-250 gr.	
Mercuric Chloride	1-100,000 gr.	221
Morphine	1-500 gr.	278
Morphine Atropine	1-500 gr. 1-5000 gr.	71,278
Physostigmine	1-1000 gr. (off) 1-500, 1-250 gr.	325, 336
Pilocarpine	1-500 gr.	254
Potassium Nitrate	1-250 gr.	342
Silver Nitrate	1-500 gr.	66
Thymol	1-1000 gr.	395
Zinc Sulphate	1-250 gr.	408
Zinc Sulphate Opium	1-250 gr. 1-250 gr.	408
Opium	½ to 2 gr.	
Ordeal Bark		185
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Acidi Arseniosi, 1-120, 1-60, 1-50, 1-30, 1-20 gr.		67
Aconiti Rad., 1-8 gr.	1 hourly	40
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,, *et Asafœtidæ*	5 to 10 gr.	
,, *et Ferri*	5 to 10 gr.	
,, *et Myrrhæ*	5 to 10 gr.	
Ext. Aloes Bbd. 2 gr. Ext. Nucis Vom. 1-6 gr. Ext. Belladonna. ½ gr.		
Ext. Aloes Soc., 1 gr. Ext. Nucis Vom., ¼ gr. Ext. Hyoscyami, 2 gr.	1 to 2	
Ext. Aloes Soc., 1 gr. Mastich., ½ gr. S.V. R., *q.s.*	1 with dinner	
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Acidi Arseniosi, 1-15 gr. Pip. Nig. ¾ gr. G. Acaciæ, *q.s.*	1 or 2 daily	
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Colchici Ext. Acet., ¼ gr. Opii, ¼ gr. Pil. Coloc. Co., 2 gr. Pil. Hydrarg., 1½ gr.	1 or 2	
Colocynthidis Compositæ	5 to 10 gr.	
,, *et Hyoscyami*	5 to 10 gr.	
Conii Compositæ	5 to 10 gr.	
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Digitalis, ½ gr. Opii Pulv., ¼ gr. Quininæ Sulph., 1 gr. Ipecac., ¼ gr.	1 thrice daily	
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Ferri Iodidi, 1 in 3½	3 to 8 gr.	
Ferri, Quininæ et Strychninæ Phosph.	2 or 3 daily	203
Ferri Sulph. Exsicc., 3 gr., 5 gr., cum Syr.	2 or 3 daily	329
Ferri Redacti, 1 gr. and 2 gr.	2 or 3 daily	
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Pil. Hydrarg., 2½ gr. Pil. Coloc. Co., 2½ gr.	1 or 2	
Pil. Hydrarg., 1½ gr. Pil. Coloc. Co., 2 gr. Ipecac., 1-3 gr. Ext. Hyoscyam., 1 gr.	1 or 2	
Pil. Hydrarg., 2½ gr. Pil. Rhei Co., 2½ gr.	1 or 2	
Pil. Hydrarg., 3 gr. Hydr. Subchlor., 1-3 gr. Ipecac., 1-3 gr.	1 or 2	
Pil. Hydrarg., 3 gr. Opii Pulv., ¼ gr.	2 or 3 times a day	
Hydrarg. cum Creta, 1-3 gr., ½ gr.	every 1 or 2 hrs.	
Hydrarg. cum Creta ⅓ gr. Pulv. Ipecac. Co. 3 gr.	1 every 4 hours	
Hydrarg. cum Creta, 2 gr. Pulv. Ipecac. Co., 3 gr.	1 or 2	
Hydrarg. Cyanidi, 1-12 gr. and 1-10 gr.	1 twice daily	
Hydrarg. Diureticæ. *St. Mary's Hosp.*		
Pil. Hydrarg., 1 gr. Pulv. Digital, 1 gr. Pulv. Scillæ, 2 gr.	1 or 2	

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Hydrarg. Iodidi Rub., 1-16 gr.	1 twice daily	
Hydrarg. Iodidi Rubri, ½ gr., et Potassii Iodidi, 4 gr.		220
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{ Hydrarg. Iodidi Virid., ½ gr. Opii Pulv., ¼ gr. }		
Hydrarg. Perchloridi, 1-12 gr., 1-20 gr. and 1-40 gr.		
Hydrarg. Subchloridi. ½ gr., 1 gr., 2 gr., and 3 gr.		
Hydrarg. Subchloridi Compositæ (1 in 5)	5 to 10 gr.	
{ Hydrarg. Subchlor., 2 gr. Opii Pulv., 1 gr. }	one	
{ Hydrarg. Subchlor., 1 gr. Opii Pulv., ¼ gr. }	every 4 hours	
{ Hydrarg. Subchlor., 2 gr. Pil. Coloc. Co., 2 gr. Ext. Hyoscyami, ½ gr. }	1 or 2 at bedtime	
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Podophyllin, 1-30 gr., 1-20 gr., 1-15 gr., ¼ gr., ½ gr., and 1 gr.		340
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,, *Tragacanthæ Compositus*	10 to 60 gr.	397
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Quillaia		124, 415
Quineti Sulphas	1 to 5 gr. or more	346
Quinetum	1 to 5 gr. or more	346
Quinidinæ Sulphas	1 to 20 gr.	347
Quinidine		347
Quinina	1 to 4 gr.	347
Quininæ Arsenias	1-8 to ½ gr.	348
,, Chloras	1 to 5 gr.	348
,, Citras	1 to 5 gr.	348
,, Dihydrochloridum		350
,, Fluoridum	1 to 2 gr.	19
,, Hydrobromas	1 to 5 gr.	349
,, ,, Acida	½ to 2 gr. (hypod.)	349
,, *Hydrochloras*	1 to 10 gr.	349
,, ,, Acida	½ to 2 gr. (hypod.)	350
,, Iodas	1 to 5 gr.	350
,, Iodidum	1 to 5 gr.	350
,, ,, Acidum	1 to 4 gr	350
,, Lactas	1 to 5 gr.	350
,, Oleatum, 1 in 4		294
,, Phosphas	1 to 6 gr.	351
,, Salicylas	2 to 6 gr.	351

Name.	Dose.	Page
Quininæ Sulphas	1 to 5 gr.	351
,, ,, Acida	1 to 5 gr.	353
,, Sulphocarbolas	1 to 6 gr.	354
,, Tannas	1 to 4 gr.	354
,, Valerianas	1 to 4 gr.	354
Quinine Acid Sulphate	1 to 5 gr.	353
Quinine Disulphate	1 to 5 gr.	351
,, *Sulphate*	1 to 5 gr.	351
Quinoidine	1 to 5 gr. or more	354
Quinol	½ to 5 gr.	230
Randia Dumetorum		416
Rattlesnake Poison		412
Rectal Etherisation		42
Red Gum	2 to 10 gr.	190
Remijia Pardieana		120
,, Pedunculata		120
Rennet, Essence of		312
Resina Podophylli	1-30 to 1-15 gr. frequently ¼ to 1 gr. single dose	339
Resorcin	5 to 15 or 30 gr.	354
Resorcin-phthaleïn Anhydride		131
Rhamni Frangulæ Cortex		356
,, *Purshiani Cortex*		356
Rhei Radix	2 to 20 gr.	
Rhein	1·5 to 2 gr. or more	116
Rhigolene		162
Rhus Aromatica		359
,, Glabra		359
,, Toxicodendron		358
Rosaniline, Hydrochlorate of	½ to 4 gr.	131
Roseine	½ to 4 gr.	131
Rosolane		219
Rubidium-Ammonium Bromide	5 to 30 gr.	54
Rubini's Solution of Camphor	2 to 5 m.	96
Rubus Chamæmorus		416
Rumicin	1 to 4 gr.	359
Sabadilla		404
Sabinæ Cacumina	4 to 10 gr.	
Saccharated Wheat Phosphates		324
Saccharin, syn. Glusidum	½ to 2 gr.	359
,, Soluble	½ to 2 gr.	360
Sacred Bark		357
Safrol	20 to 30 m.	416
Sal Alembroth		223
,, Gauze		223
,, Wool		223

NAME.	DOSE.	PAGE
Sal Carolinum Factitium	20 to 60 gr.	370
Salicifrice		28
Salicinum	3 to 30 gr.	30
Salicylamide	2 to 6 gr.	32
Salicylate of Ammonium	5 to 30 gr.	28
,, Bismuth	5 to 20 gr.	83
,, Calcium	2 to 20 gr.	28
,, Camphor	1 to 5 gr.	97
,, Cresol	2 to 10 gr.	33
,, Iron	2 to 10 gr. or more.	28
,, Mercury	½ gr.	223
,, Potassium	5 to 30 gr.	29
,, *Sodium*	10 to 30 gr.	29
Salicylated Collodion		163
Salicylic Acid	5 to 30 gr. or more	25
,, ,, Ointment, 1 in 30		28
,, ,, Cream, 1 in 6½		28
,, Plaster Mulls		28
,, Wool, 4 and 10 per cent.		28
Salicyl-sulphonic Acid		391
Saline Solution, Normal		363
,, ,, Jennings'		363
Salipyrin	15 to 30 gr.	138
Salix Nigra		416
Salol	4 to 30 gr.	30
,, cum Camphora		32
,, Catheter Oil		32
,, Collodion		31
,, Pill Varnish		31
Salophen	10 to 30 gr.	32
Salud		414
Salve Mulls		422
Salvo Petrolia		307
Sandal Wood Oil	10 to 30 m.	300
Sanguinaria		361
Sanguinarin	½ to 1 gr.	361
Sanguis Bovinus Exsiccatus		194
Sanitary Wood Wool Wadding		335
Sanitas		228, 334
Santonate of Atropine		70
,, of Sodium	5 to 10 gr.	362
Santonica	10 to 60 gr.	361
Santoninoxim		363
Santoninum	2 to 6 gr.	361
Sapo Jalapinus	2 to 6 gr.	257
,, Kalinus		416

Name.	Dose.	Page
Sapo Lanolin		261
„ Resinæ		416
„ Viridis		416
Saponin		415
Sarracenia Purpurea		416
Sassy Bark		185
Scammoniæ Resina	3 to 8 gr.	
Scammonin	1 to 5 gr.	257
Scammonium	5 to 10 gr.	
Scheele's Green, Pure	1-100 to 1-25 gr.	67
Schmiedeberg's Fehling's Test		383
Schœnocaulon Officinale		404
Scilla	1 to 3 gr.	416
Scillain		416
Scillipicrin		416
Scillitoxin		416
Sclerotic Acid	½ to ¾ gr.	184
Sclerotinic Acid	½ to ¾ gr.	184
Scopola Carniolica		416
„ Japonica		417
Scopolamine		69, 231, 417
Scopolina Atropoides		416
Scopoline		417
Scotch Pine, or Fir		334
Scutellarin	1 to 5 gr.	417
Sea Wrack		204
Secale Cornutum	10 to 30 gr.	182
Secalin		397
Seidlitz Powder		370
Selenite		259
Senna	10 to 30 gr.	181
Sethia Acuminata		417
Seigesbeckia Orientalis		417
Silicate of Potassium Solution		368
„ of Sodium Solution		368
Silk, Carbolised		9
Silver, Nitrate of	1-6 to 1-3 gr.	65
„ *Nitrate, Mitigated*		65
„ *Nitrate, Toughened*		65
„ *Oxide of*	½ to 2 gr.	
Simulo		417
Smelling Salts, Carbolized		10
Smilax Sarsaparilla		372
Snakeroot, Black		119
Snakeweed		192
Snuff of Menthol		270

NAME.	DOSE.	PAGE
Soap Bark		415
,, Green		416
,, Resin...		416
Soaps, Unna's		422
Socaloin	1 to 4 gr.	51
Soda Mint Tablets		384
,, *Tartarata*	2 to 4 dr.	
,, ,, *Effervescens, Pulvis*		370
Sodii Arsenias	1-16 to 1-8 gr.	68
,, *Benzoas*	10 to 30 gr.	2
,, *Bicarbonas*	10 to 60 gr.	
,, *Bromidum*	10 to 30 gr.	364
,, *Carbonas*	5 to 30 gr.	
,, ,, *Exsiccata*	3 to 10 gr.	
,, Chloras	10 to 30 gr.	364
,, *Chloridum*	10 to 240 gr.	
,, Citras	10 to 6 gr.	365
,, *Citro-Tartras Effervescens*	1 to 4 dr.	
,, Cresotas	2 to 20 gr.	33
,, Di-thio-salicylas	3 gr.	29
,, Ethylas		365
,, Ethyl-sulphas	½ to 1 oz.	370
,, Glyco-cholas		370
,, Hippuras	5 to 30 gr.	3
,, Hypobromitis Solutio		366
,, *Hypophosphis*	1 to 10 gr.	323
,, Hyposulphis	10 to 60 gr.	37
,, *Iodidum*	3 to 10 gr.	366
,, *Nitras*	5 to 30 gr.	
,, *Nitris*	2 to 5 gr.	367
,, Paracresotas	2 to 20 gr.	33
,, Permanganas		267
,, *Phosphas*	20 gr. to 1 oz.	367
,, ,, Effervescens	1 to 3 dr.	367
,, ,, ,, (Off.)	¼ to ½ oz.	368
,, ,, Exsiccata	10 gr. to 4 dr.	368
,, *Salicylas*	10 to 30 gr.	29
,, ,, Effervescens	1 dr. or more	29
,, Santonas	5 to 10 gr.	362
,, Silicas		368
,, *Sulphas*	2 to 8 dr.	369
,, ,, Effervescens	60 gr. or more.	369
,, ,, ,, (Off.)	¼ to ½ oz.	369
,, ,, Exsiccata	½ to 4 dr.	369
,, Sulphethylas	½ to 1 oz.	370
,, Sulphindigotas		368

NAME.	DOSE.	PAGE
Sodii Sulphis	5 to 20 gr.	37
,, *Sulphocarbolas*	10 to 15 gr.	14
,, Sulpho-Ichthyolas	10 to 30 gr. daily	235
,, Sulphovinas	¼ to 1 oz.	370
,, Tauro-cholas	2 to 6 gr.	370
,, Telluras	⅓ to ⅔ gr.	371
,, Thio-sulphas		37
,, *Valerianas*	1 to 5 gr.	
Sodio-Magnesii Sulphas Effervescens	60 gr. or more	369
Sodium		363
Soluble Glass for Bandages		368
Solutio Sodii Salicylatis	1 to 3 dr.	29
,, Zinci Chloridi Antiseptica		406
Solution, Normal Saline		363
,, of Coal Tar		124
,, of Ichthyol		236
,, *of Potassio-Cupric Tartrate*		387
,, of Potassio-Mercuric Iodide		392
Solveol		125
Somnal	30 m.	403
Sonstadt's Solution for Testing Gems		393
Soy Bean		417
Soya Hispida		417
Sozoiodol	22 gr.	246
Sparteinæ Sulphas	½ to 1 gr.	371
Spermine, Synthetic		335
Sphagnum		371
Spindle Tree Bark		191
Spiritus Ætheris	30 to 90 m.	44
,, ,, *Compositus*	30 to 90 m.	44
,, ,, *Nitrosi*	½ to 2 dr.	45
,, *Ammoniæ Aromaticus*	½ to 2 dr.	56
,, ,, *Fœtidus*	½ to 2 dr.	56
,, *Armoraciæ Compositus*	1 to 2 dr.	
,, *Cajuputi*	½ to 1 dr.	
,, *Camphoræ*	10 to 30 m.	95
,, Camphoræ Fortior	2 to 5 m.	96
,, *Chloroformi (Chloric Ether)*	5 to 60 m.	115
,, *Cinnamomi*	30 to 60 m.	
,, *Juniperi*	30 to 60 m.	
,, *Lavandulæ*	30 to 60 m.	
,, *Menthæ Piperitæ*	30 to 60 m.	
,, *Myristicæ*	30 to 60 m.	
,, Nucis Juglandis	1 to 4 dr.	258
,, Thymol	3 to 15 m.	395
Staining Preparations		424

Name.	Dose.	Page
Staphisagriæ Oleum		176
,, *Unguentum*		176
Starch and Iodine Paste		249
,, Iodised	½ to 4 dr.	249
Stavesacre Ointment		176
Sterilised Oil and Liquid Paraffin		171
Stigmata Maidis		415
Stillingia		372
Stillingin	1 to 3 gr.	372
Stramonium		175, 342
Strontii Bromidum	5 to 30 gr.	372
,, Lactas	5 to 30 gr.	373
Strophanthi Pilula	2 m. of Tr. in each.	374
,, Tabellæ	1 to 5	374
,, *Tinctura*	2 to 10 m.	374
Strophanthidin		373
Strophanthin	1-120 to 1-60 gr.	373
Strophanthus Hispidus		373
,, *Kombé*		373
Strychnine	1-30 to 1-12 gr.	376
Strychninæ Acetas	1-24 to 1-10 gr.	377
,, Arsenias	1-60 to 1-15 gr.	377
,, Hydrobromas	1-30 to 1-12 gr.	377
,, Hydrochloras	1-30 to 1-12 gr.	377
,, Nitras	1-24 to 1-10 gr.	377
,, Sulphas	1-24 to 1-10 gr.	378
,, Sulphas Acida	1-20 to 1-10 gr.	378
Styles of Boric Acid		4
Styptic Colloid		164
,, Lint		197
,, Wool		197
Sublimate Lotiforms		221
,, Pastils		222
,, Wood Wool, ½ per cent.		221, 335
Succus Alterans		372
,, Ari	1 dr.	417
,, *Belladonnæ*	2 to 15 m.	80
,, *Conii*	½ to 1 dr.	
,, Digitalis	3 to 10 m.	
,, Galii	1 to 2 dr.	413
,, *Hyoscyami*	½ to 1 dr.	
,, *Scoparii*	1 to 2 dr.	
,, *Taraxaci*	1 to 2 dr.	
Sugar Coating of Pills		332
Sugar in Urine, Tests for		387
Sulphaminol		15

NAME.	DOSE.	PAGE
Sulphide of Calcium	1-10 to 1 gr.	92
Sulphindigotate of Sodium		388
Sulphite of Sodium	5 to 20 gr.	37
Sulphocarbol, Sulphocarbolic Acid		14
Sulphocarbolates		14
Sulpho-ichthyolate of Ammonium		235
Sulphonal	15 to 40 gr.	379
Sulphur Præcipitatum	20 to 60 gr.	382
,, *Sublimatum*	20 to 60 gr.	382
Sulphuretted Hydrogen		383
Sulphurous Acid	30 to 120 m.	36
,, Anhydride		36
Suppositories with Cacao Butter, 15 gr. in each		
,, with Gelatine Basis, 20 gr. in each		
,, Peptonised Beef		314
Suppositoria Acidi Borici, 3 gr.		4
,, ,, Carbolici, 1 gr.		10
,, ,, ,, *cum Sapone*, 1 gr.		10
,, ,, *Tannici*, 3 gr.		
,, *Acidi Tannici cum Sapone*, 3 gr.		
,, Atropinæ, 1-20 gr.		
,, Belladonnæ Ext., ½ gr.		80
,, Bismuthi Oxychloridi, 10 gr.		82
,, Carnis		314
,, Chloral, 5 gr.		106
,, Cocainæ, ½ gr.		145
,, Collinsoniæ		412
,, Gallæ, 5 gr.		
,, Gallæ, 5 gr. Opii, 1 gr.		
,, *Glycerini*		212
,, Hamamelin, 1 gr. and 3 gr.		217
,, *Hydrargyri Unguenti*, 5 gr.		
,, *Iodoformi*, 3 gr., also 1 gr. and 5 gr.		242
,, *Morphinæ*, ½ gr., also ¼ gr., and 1 gr.		279
,, *Morphinæ cum Sapone*, ½ gr.		279
,, Opii, 1 gr.		
,, *Plumbi Acetatis*, 3 gr. *Opii*, 1 gr.		
,, Santonini	3 gr., 5 gr., and 6 gr.	362
,, Zinci Oleatis	5 gr.	
,, ,, Oxidi	5 gr.	
Surgical Dressings		419
Sweet Vernal Grass		60
Sylphium, *syn.* Silphion		394
Syrupus	1 or 2 dr.	

	Name.	Dose.	Page
Syrupus	Acidi Hydriodici, 1 per cent.	20 to 40 m.	249
,,	Apomorphinæ Hydrochloratis	½ to 1 dr.	63
,,	*Aurantii*	1 dr.	
,,	*Aurantii Floris*	1 dr.	
,,	Butyl Chloral	1 dr.	87
,,	Calcii et Ferri Lactophosphatis	1 or 2 dr.	20
,,	Calcii Lactophosphatis	1 or 2 dr.	20
,,	,, Hypophosphitis	1 to 4 dr.	321
,,	,, Manganesii et Potassii Hypophosphitum		321
,,	Cascara Sagrada	1 to 4 dr.	358
,,	*Chloral*	½ to 2 dr.	106
,,	Cocainæ	1 dr.	148
,,	Codeinæ	1 dr.	160
,,	Eucalypti Gummi	30 to 60 m.	191
,,	Ferri Bromidi	1 dr.	194
,,	Ferri Bromidi cum Quinina	1 dr.	195
,,	Ferri Bromidi cum Quinina et Strychnina,	1 dr.	195
,,	Ferri Bromidi cum Strychnina	1 dr.	195
,,	Ferri Dialysati	1 dr.	199
,,	Ferri et Manganesii Phosphatum	1 dr.	202
,,	Ferri et Quininæ Citratis	1 dr.	348
,,	Ferri et Quininæ Hydrobromatum	1 dr.	195
,,	Ferri et Quininæ Iodidi	1 dr.	350
,,	Ferri et Strychninæ Hydrobromatum	1 dr.	195
,,	Ferri Hypophosphitis	½ to 2 dr.	323
,,	*Ferri Iodidi*	½ to 1 dr.	
,,	*Ferri Phosphatis*	1 dr.	201
,,	Ferri Phosphatis Compositus	1 dr.	202
,,	Ferri, Quininæ et Strychninæ Hydrobromatum	1 dr.	195
,,	Ferri, Quininæ et Strychninæ Phosph.	1dr.	202
,,	*Ferri Subchloridi*	½ to 1 dr.	195
,,	*Hemidesmi*	1 dr.	
,,	Hypophosphitum Compositus	½ to 2 dr.	323
,,	Ipecacuanhæ Aceticus	¼ to 2 dr.	250
,,	*Limonis*	1 dr.	
,,	*Mori*	1 dr.	
,,	*Papaveris*	1 dr.	
,,	Picis Liquidæ	1 to 4 dr.	338
,,	Pruni Virginianæ	1 to 2 dr.	343
,,	*Rhei*	1 to 4 dr.	
,,	*Rhœados*	1 dr.	
,,	*Rosæ Gallicæ*	1 dr.	
,,	*Scillæ*	30 to 60 m.	
,,	*Sennæ*	1 to 4 dr.	
,,	Sodii Hypophosphitis	1 to 4 dr.	323

NAME.	DOSE.	PAGE
Syrupus Sulphatum	4 dr.	94
,, *Tolutanus*	1 dr.	
,, Trium Phosphatum		202
,, *Zingiberis*	1 dr.	
Syzygium Jambolanum		257
Tabellæ Antipyrin, 5 gr.		136
,, Apomorphinæ, 1-50 gr.		62
,, Caffeinæ Citratis, 1 gr.		88
,, Cocainæ, 1-20 gr.		145
,, Exalgin	½ gr.	131
,, *Glonoini*		289
,, Menthol, 1-10 gr.		270
,, *Nitroglycerini*	1 or 2	289
,, ,, Compositæ		291
,, Pepsinæ, 3 gr.		314
,, ,, et Bismuthi		314
,, Saccharini, ½ gr.		360
,, Sodii Nitritis, 2½ gr.		367
,, Strophanthi, 2 m. of Tr.		374
,, *Trinitrini*		289
,, ,, Compositæ		291
Tablets Compressed, list of		383
Tabloids of Cocaine Hydrochlorate, 1-10 and 1-6 gr.		148
Talc		259
Tamarind	2 dr.	
Tannate of Cannabin	2 to 10 gr. increased	99
Tar	2 to 10 gr.	337
Tayuya		417
Tenax		337
Terchloride of Formyl	1 to 10 m.	109
Terebena Pura	5 to 30 m.	384
Terebinthina Chia	5 to 10 gr.	386
Terebinthinæ Oleum	10 to 240 m.	384
Terpene Hydrate	2 to 6 gr.	385
Terpinum Hydratum	2 to 6 gr.	385
Terpinol	1 to 5 m.	386
Test Papers for Urine		388, 390
Test Solutions		387
Tetrachloride of Carbon		103
Tetrahydroparachinanisol	3 to 8 gr.	139
Tetrahydroparamethyloxychinoline	3 to 8 gr.	139
Tetra-iodo-pyrrhol, *syn.* Iodol		245
Tetramethylthionine Chloride	1 to 4 gr.	133
Tetronal	10 to 20 gr.	381
Thalline		139
,, Sulphate		139

Name.	Dose.	Page
Thapsia Garganica		394
Thebaine		287
Theine	½ to 5 gr.	87
Theobromine	1 to 5 gr.	394
Therapeutic Index		505
Thilanin		261
Thiol	2 to 10 gr.	237
,, Liquidum		237
Thiooxydiphenylamine		15
Thio-Résorcin		356
Thio-sulphate of Sodium		37
Thuja		394
Thymol	½ to 2 gr.	395
,, -Acetate of Mercury	¾ to 1½ gr.	225
,, Gauze		395
,, Solution (Volckmann's)		395
Tinctura Aconiti	5 to 15 m., or 1 m. often	40
,, Aconiti Ferocis	1 minim hourly	410
,, Aconiti Heterophylli	10 to 60 m.	410
,, Aconiti (Fleming)	1 to 5 m.	40
,, Aconiti (Turnbull)	1 to 5 m.	40
,, *Actææ*	15 to 60 m.	119
,, Agarici	20 to 60 m.	49
,, *Aloes*	1 to 2 dr.	
,, Alstoniæ Constrictæ	½ to 2 dr.	411
,, ,, Scholaris	1 to 2 dr.	411
,, Anacardii	2 to 10 m.	59
,, Anthemidis	3 to 10 m.	60
,, Anthoxanthi	2 to 6 m.	60
,, Apis Mellificæ	1 m. hourly	
,, Apocyni Cannabini	5 to 60 m.	61
,, *Arnicæ*	½ to 1 dr.	
,, *Asafœtidæ*	½ to 1 dr.	
,, Asclepiadis Cornuti	5 to 40 m.	411
,, ,, Incarnatæ	5 to 40 m.	411
,, ,, Tuberosæ	5 to 40 m.	411
,, *Aurantii*	1 to 2 dr.	
,, ,, *Recentis*	1 to 2 dr.	
,, *Belladonnæ*	5 to 20 m.	80
,, ,, Ætherea		81
,, *Benzoini Composita*	30 to 60 m.	
,, Benzoini Simplex, B.P.C. 1 in 10 S.V.R.		
,, Boldoæ	10 to 20 m.	412
,, Bryoniæ	1 to 10 m.	85
,, *Buchu*	1 to 2 dr.	
,, Cacti Grandiflori	2 to 10 m.	412

NAME.	DOSE.	PAGE
Tinctura Calendulæ Florum	5 to 20 m.	92
,, *Calumbæ*	½ to 2 dr.	
,, *Camphoræ Composita*	15 to 60 m.	
,, *Cannabis Indicæ*	5 to 20 m.	98
,, *Cantharidis*	5 to 20 m.	100
,, *Capsici*	3 to 20 m.	102
,, ,, Ætherea		102
,, ,, Concentrata (Turnbull)		102
,, ,, Fortior, B.P.C.	1 to 3 m.	102
,, *Cardamomi Composita*	½ to 2 dr.	
,, Carminativa	2 to 10 m.	207
,, Cascara Sagrada	10 to 60 m.	358
,, *Cascarillæ*	½ to 1 dr.	
,, *Catechu*	½ to 2 dr.	
,, *Chiratæ*	½ to 2 dr.	
,, *Chloroformi Composita*	5 to 60 m.	115
,, *Chloroformi et Morphinæ*	5 to 10 m.	115
,, *Cimicifugæ*	15 to 60 m.	119
,, *Cinchonæ Composita*	½ to 2 dr.	122
,, *Cinchonæ (Rubræ)*	½ to 2 dr.	122
,, *Cinnamomi*	½ to 2 dr.	
,, *Cocci*	as colouring	
,, Colchici Floris Recentis	10 to 30 m.	
,, *Colchici Seminum*	10 to 30 m.	
,, Collinsoniæ	½ to 2 dr.	412
,, Colocynthidis, P.G.	3 to 15 m.	
,, *Conii*	20 to 60 m.	
,, Convallariæ	5 to 30 m.	167
,, Coto	10 to 20 m.	167
,, *Croci*	as colouring	
,, *Cubebæ*	½ to 2 dr.	172
,, *Digitalis*	10 to 30 m.	
,, Droseræ Rotundifoliæ	5 to 15 m.	412
,, Elaterii Composita	10 to 30 m.	179
,, *Ergotæ*	15 to 60 m.	182
,, Ergotæ Ammoniata	10 to 60 m.	184
,, Erythrophlœi	5 to 10 m.	186
,, Eucalypti Foliorum	15 to 120 m.	189
,, Eucalypti Gummi	20 to 40 m.	191
,, Euonymi	10 to 40 m.	192
,, Euphorbiæ Piluliferæ	10 to 30 m.	193
,, *Ferri Acetatis*	5 to 30 m.	201
,, ,, Muriatis	10 to 30 m.	197
,, ,, *Perchloridi*	10 to 30 m.	196
,, ,, Pomata	15 to 30 m.	201
,, *Gallæ*	½ to 2 dr.	

NAME.	DOSE.	PAGE
Tinctura Gelsemii	5 to 20 m.	206
,, *Gentianæ Composita*	½ to 2 dr.	
,, Gossypii Radicis	1 dr.	214
,, *Guaiaci Ammoniata*	30 to 60 m.	
,, Guaranæ	30 to 60 m.	216
,, *Hamamelidis*	5 to 60 m.	217
,, *Hydrastis*	20 to 60 m.	227
,, *Hyoscyami*	30 to 60 m.	
,, Ignatiæ	3 to 20 m.	293
,, *Iodi*	5 to 20 m.	247
,, ,, Ætherea		248
,, ,, Decolorata		248
,, ,, ,, Fortior		248
,, ,, Oleosa		248
,, Iodinei, P.E.	1 in 16	247
,, *Jaborandi*, 1 in 4	30 to 60 m.	252
,, *Jalapæ*	30 to 120 m.	257
,, *Kino*	30 to 120 m.	
,, Koromiko	½ to 1 dr.	414
,, *Krameriæ*	30 to 120 m.	
,, Lachnanthis	1 to 10 m.	414
,, *Laricis*	20 to 30 m.	
,, *Lavandulæ Composita*	30 to 120 m.	
,, Laxativa	20 to 60 m.	358
,, *Limonis*	30 to 120 m.	
,, *Lobeliæ*	10 to 30 m.	
,, *Lobeliæ Ætherea*	10 to 30 m.	
,, *Lupuli*	30 to 60 m.	263
,, Lupulinæ	10 to 60 m.	263
,, Lycopodii	15 to 60 m.	264
,, Menthol Ætherea		270
,, *Myrrhæ*	30 to 60 m.	
,, *Nucis Vomicæ*	5 to 20 m.	293
,, *Opii*	10 to 30 m.	
,, *Opii Ammoniata*	30 to 60 m.	
,, *Phenol-phthalein*, as a Test		392
,, Phosphori Composita	3 to 12 m.	319
,, Phytolaccæ	3 to 10 m.	327
,, *Podophylli*	15 to 60 m.	340
,, Podophyllin (Dobell)	1 dr.	340
,, Podophyllin Ammoniata	2 to 20 m.	340
,, Pruni Virginianæ	20 to 60 m.	343
,, Pulsatillæ	1 to 5 m. increased	344
,, *Pyrethri*		
,, *Quassiæ*	30 to 120 m.	
,, Quebracho	30 to 60 m.	346

NAME.	DOSE.	PAGE
Tinctura Quillaiæ	20 to 60 m.	415
,, *Quininæ*	30 to 120 m.	352
,, ,, *Ammoniata*	30 to 120 m.	353
,, Randiæ Dumetorum	15 to 60 m.	416
,, *Rhei*	30 to 120 m.	
,, Rhois	1 to 5 m.	358
,, Rumicis	1 to 10 m.	359
,, *Sabinæ*	20 to 60 m.	
,, *Scillæ*	10 to 30 m.	
,, Scopolæ	5 to 30 m.	416
,, *Senegæ*	30 to 120 m.	
,, *Sennæ*	1 to 4 dr.	
,, *Serpentariæ*	30 to 120 m.	
,, *Stramonii*	10 to 30 m.	
,, *Strophanthi*	2 to 10 m.	374
,, *Sumbul*	10 to 30 m.	
,, Tayuyæ	6 to 15 m. increased	417
,, Thujæ	2 to 5 m.	394
,, *Tolutana*	20 to 40 m.	
,, *Valerianæ*	30 to 120 m.	
,, ,, *Ammoniata*	½ to 1 dr.	
,, *Veratri Viridis*	5 to 20 m.	403
,, Verbasci	20 to 60 m.	405
,, Warburg's	1 to 4 dr.	353
,, *Zingiberis*	15 to 60 m.	
,, *Zingiberis Fortior*	5 to 20 m.	
Tonga	1 to 2 dr.	417
Tonka Bean		168
Tonquin Bean		168
Toughened Caustic		65
Tow, Carbolised		9
Towelettes, Wood Wool		335
Tragacantha	2 to 10 gr.	397
Traumaticin		118
Trianosperma Ficifolia		417
Tribromophenol		14
Tribulus terrestris (Gokhru)		213
Trichloracetic Acid		16, 391
Trichlorphenol		15
Trimethylamina	20 to 60 m. of solution	397
Trimethylaminæ Hydrochloras	2 to 3 gr.	398
Trimethylethylene		59
Trinitrine		287
,, *Solution of*	½ to 2 m.	289
Trinitrophenic Acid	¼ to 2 gr.	23
Trional		381

NAME.	DOSE.	PAGE
Triticum		398
Trochisci (Medicated Lozenges), F. with Fruit Paste, S. with plain sugar:—		
Acidi Benzoici, S. and F., ½ gr. (Stimulant Voice Lozenge), T.H. ...	1 every 4 hours	2
Acidi Carbolici, S., 1 gr., T.H. ...	4 or 5 daily	10
,, Citrici (Acid Lemon Drops) ...	*ad libitum*	
,, *Tannici*, S., ½ gr....	1 frequently	
,, Tannici, F. 1½ gr., T.H.	1 every 3 or 4 hours	
,, Tannici et Capsici, F.	1 frequently	
Aconiti, F., Tinct. ½ m., T.H.	1 every ½ hour	
Althææ (Pastilles de Guimauve), T.H.	*ad libitum*	
Aluminis, S., 1 gr.	1 or 2 after meals	
Ammonii Bromidi, F., 2 gr. ...	1 every 3 hours	54
,, Chloridi, F. 2 gr., T.H.	,,	54
,, ,, cum Glycyrrhiza	,,	54
Antacidi (Sir W. Roberts) Calcii Carbonatis Precipitatæ 3½ gr. Magnesii Carbonatis 3½ gr. Sodii Chloridi 1 gr.		
Bismuthi, S., 2 gr.	1 or 2 after meals	83
Boracis, F., 3 gr., T.H....	1 every 3 or 4 hours	
,, et Potassii Chloratis, F.	,, ,,	
Camphoræ, S.	1 frequently	96
Capsici, S. (and as Voice Jujubes) ...	,,	
Carbonis S. (Willow Charcoal)	1 or 2 after meals	
Carnis (Meat Lozenges)	*ad libitum*	193
Catechu, F., 2 gr., T.H. ...	1 every 3 hours	
Catechu, S., 1 gr.	,,	
Cocainæ Hydrochloratis, S., 1-12 gr.		148
Codeinæ, 1-8 gr., S.	4 or 5 daily	160
Cubebæ, F., 3 gr., T.H....	1 every 3 or 4 hours	173
Eucalypti Gummi, F., 1 gr. ...	1 after meals	191
,, Compositi, F., 1 gr. ...	4 or 5 daily	191
Ferri Redacti, S., 1 gr.	1 or 2 after meals	
Gelatini	*ad libitum*	
Glycerini (Jujubes or Pastils) ...	*ad libitum*	
Glycyrrhizæ (Pontefract Cakes or Pipes)		212
Guaiaci, F., 2 gr., T.H....	3 to 6 daily	
Guaiaci, S., 2 gr.		
Hydrargyri Subchloridi, S., 1 gr. and 2 gr.... ...		
Ipecacuanhæ, S., ¼ gr....	4 or 5 daily	
Ipecacuanhæ, S., 1 gr.	2 or 3 daily	
Kino, F., 2 gr., T.H. ...	1 every 3 or 4 hours	
Krameriæ, F., Ext. 3 gr., T.H.	1 ,, ,, ,,	
Lactucæ, F., Ext., 1 gr., T.H.	1 ,, 1 or 2 ,,	

NAME.	DOSE.	PAGE
Trochisci (Medicated Lozenges), F. with Fruit Paste, S. with plain sugar:—		
Lavandulæ, S.	*ad libitum*	
Menthæ Piperitæ	,, ,,	
,, ,, Fortior	,, ,,	
Morphinæ, S., 1-36 gr.	4 or 5 daily	280
Morphinæ, F., 1-36 gr.	,, ,, ,,	280
Morphinæ, 1-36 gr., *et Ipecacuanhæ*, 1-12 gr., S. (and F., unofficial)	4 or 5 daily	280
Morphinæ 1-40 gr., & Emetin, 1-80 gr., S.	,, ,, ,,	280
Moschi, S.	*ad libitum*	
Nitroglycerini, 1-200 gr., 1-100 gr., 1-75 gr. 1-50 gr., 1-25 gr.		289
Opii S., Ext. 1-10 gr. (and Liquorice),	2 to 6 daily	
Papain, ½ gr.		305
,, cum Cocaina		305
Paregoric, S.	2 to 6 daily	
Potassii Chloratis, S., 5 gr.	3 to 6 daily	
,, Chloratis, S. (Codex), 3 gr.	3 ,, 6 ,,	
,, Chloratis, F., 3 gr., T.H.	3 ,, 6 ,	
,, Citratis, F., 3 gr., T.H.	3 ,, 6 ,,	
,, Nitratis, S., 3 gr.	3 ,, 6 ,,	
,, Tartratis Acidæ, F., 3 gr., T.H.	3 ,, 6 ,,	
Pyrethri, F., 1 gr., T.H.	3 ,, 6 ,,	
Rhamni Frangulæ (Aperient Fruit Lozenges)	1 to 2	357
Rhei, Zingiberis et Cardamomi (Digestive Tablets)	1 or 2 after meals	
Ribis Nigri (Fruit Lozenges)	*ad libitum*	
Rosæ, S.	,, ,,	
Santonini, S., 1 gr.	1 or 2 at bedtime	362
Sedative, F., Ext. Opii 1-10 gr., T.H.	3 to 6 daily	
Sodii Bicarbonatis, S., 5 gr.	1 or 2 after meals	
,, et Zingiberis, S.	1 or 2 ,, ,,	
,, Chloratis, F. and S., 3 gr.,	3 to 6 daily	365
Sulphuris	1 to 6	382
Tolutani S.	*ad libitum*	
Zingiberis, S.	,, ,,	
Tropæoline OO		393
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Tuberculin		399
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,, Oil		238
,, Powder		238
Turnbull's Tincture of Aconite	1 to 5 m.	40
Turner's Cerate		259
Turpentine, Oil of	10 m. to 4 dr.	384
,, French Oil	30 m. every ½ hour	315
Ulexine	1-20 to 1-5 gr.	417
Unguentum Acidi Borici, Nos. 1, 2 and 3, 1 in 6		5
,, ,, Borici (Lister), 1 in 6		4
,, ,, *Borici*, 1 in 7		4
,, ,, *Carbolici*, 1 in 20		10
,, ,, Chrysophanici, 20 gr. in 1 oz.		117
,, ,, Pyrogallici, 60 gr. to 1 oz.		24
,, ,, ,, Compositum		24
,, ,, *Salicylici*, 1 to 28		28
,, *Aconitinæ*, 1 in 60		39
,, Ætheris Ozonici		229
,, *Antimonii Tartratis*, 1 in 5		
,, Araroba		116
,, *Atropinæ*, 8 gr. in 1 oz.		72
,, ,, cum Acido Borico		72
,, ,, cum Cocaina		73
,, *Belladonnæ*		81
,, Bismuthi Oxychloridi, 30 gr. in 1 oz.		82
,, Cadmii Iodidi, 1 in 8		
,, *Calaminæ*		259
,, *Cantharidis*, 1 in 8		100
,, Capsici Oleo-resinæ		103
,, *Cetacei*, 1 in 5		
,, *Chrysarobini*		117
,, ,, Compositum		117
,, Cocainæ, 1 in 30		145
,, *Conii*		166
,, *Creasoti*, 60 m. in 1 oz.		170
,, Creasoti Forte, 2 parts in 3		170
,, Cucumeris		173
,, Cupri Oleatis		294
,, Diachyli		297
,, *Elemi*, 1 in 5		
,, *Eucalypti*, 1 (oil) in 5		189
,, *Gallæ*, 1 in 6½		
,, ,, *cum Opio* 1 (opium) in 15		
,, *Glycerini Plumbi Subacetatis*		210
,, Gynocardiæ, 1 in 4		299
,, *Hamamelidis*		217

NAME.	DOSE.	PAGE
Unguentum Hydrargyri, 1 in about 2		
,, ,, *Ammoniati*, 1 in 10		
,, ,, *Compositum*		
,, ,, *Iodidi Rubri*, 16 gr. in 1 oz. ...		
,, ,, *Nitratis*		
,, ,, ,, *Dilutum*		
,, ,, Oleati		295
,, ,, Oxidi Flavi, 1 in 16		224
,, ,, ,, ,, Cum Atropina ...		73
,, ,, ,, *Rubri*, 1 in 8		
,, ,, *Subchloridi*, 80 gr. in 1 oz. ...		
,, Ichthyol		336
,, *Iodi*, 16 gr. in 1 oz.		247
,, *Iodoformi*, 1 in 10		242
,, ,, cum Atropina		73
,, ,, et Eucalypti, 1 in 50		242
,, ,, Rosatum, 5 gr. in 1 oz.		242
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,, Lanolini		261
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,, Oleatorum...		298
,, Olei Cadini, 1 in 2		338
,, Oleo-resinæ Capsici		103
,, *Paraffinum*		306
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,, Picis Carbonis		124
,, ,, *Liquidæ*, 5 in 7		338
,, *Plumbi Acetatis*, 12 gr. to 1 oz.		
,, ,, *Carbonatis*, 1 in 8		
,, ,, *Iodidi*, 1 in 8		
,, ,, Oleatis		297
,, Pyrogallol Compositum		24
,, Scopolæ		416
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,, Styracis (Storax 1, S.V.R. 1, Lard 3), for Scabies		
,, *Sulphuris*, 1 in 5		382
,, Sulphuris cum Hydrargyro		382
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,, ,, Compositum		210

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Uranii Nitras	½ to 5 gr.	402
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,, Ammonii Chloridi		54
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,, Cocainæ, 4 per cent.		145
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Veratrinæ Oleatum		404
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,, Cocæ	4 to 16 drs.	141
,, *Colchici*	10 to 30 m.	
,, Condurango	½ to 1 oz.	164
,, *Ferri*	1 to 4 dr.	
,, *Ferri Citratis*	1 to 4 dr.	
,, *Ipecacuanhæ*	5 to 40 m. expectorant 3 to 6 dr. emetic	
,, *Opii*	10 to 40 m.	
,, Pepsinæ	1 to 2 dr.	314
,, *Quininæ*	2 to 8 dr.	353
,, *Rhei*	1 to 2 dr.	
,, Xericum Detannatum		426
Viola Tricolor	10 to 60 gr.	418
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,, Boras		405
,, Bromidum	3 to 10 gr.	405
,, *Chloridum*	½ to 1 gr.	405
,, Citras	3 to 12 gr.	407
,, Cyanidum	$\frac{1}{10}$ to 1 gr.	407
,, Lactas	3 to 30 gr.	407
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,, *Oxidum*	2 to 10 gr.	259
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,, Phosphidum	1-20 to 1-3 gr.	319
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,, *Valerianas*	1 to 3 gr.	409
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THERAPEUTIC INDEX
OF
DISEASES AND SYMPTOMS.

N.B.—The Remedies are arranged in Alphabetical order; all those added in the Fifth, Sixth, and Seventh Editions are printed in italics at the end of each paragraph.

Abortion, Threatened.—Hydrastis, Hydrastin, Morphina, Opium, Sumbul, Viburnum prunifolium, *Codeina.*

Acne. — *Internal* — Calx Sulphurata, Hypophosphites, Potassii Bromid., Quininæ et Ferri Citras, Sodii Bromid., Sulphur.—— *Local* — Calaminæ Lotio, Belladonna, Hydrarg. Perchlorid. Lotio, Ichthyol, Sulphur. Iodid. Ung., Sulphur. Hypochloritis Ung., Thymol Ung., *Lanoline, Mollin.*

Ague.—Acid. Salicylic. and Salicin, Apiol, Arsenic, Chinolinum, Cinchonina, Cinchonidinæ Sulphas, Eucalyptus Globulus, Hydrastis, Quinetum, Quininæ Sulph. and Hydrobrom., Quinidinæ Sulph., Sodii Hyposulph., Warburg's Tincture, *Ammonii Picras, Berberina, Methylene Blue, Piperina.*

Albuminuria.—Acid. Gallic., Fuchsine, Jaborandi and Pilocarpine, Ozonic Ether, *Nitroglycerine and Nitrites of Amyl and Sodium.*

Alcoholism.—Arsenic, Capsicum, Cinchona rubra, Hydrastis, Lupulin, Morphina, Nux Vomica, Phosphorus, Picrotoxin, Quinine preps., Strychnine, *Cactus, Hyoscinæ Hydrobromas.*

Alopecia.—*Internal*—Pilocarpine, Strychnine.——*Local*—Ammon. Liquor, Cantharides preps., Iodum, Nuc. Vomic, Tinct., Petroleum Spirit, Pilocarpine Nitrate Lotion.

Amenorrhœa.—Actæa and Cimicifugin, Aloes, Apiol, Caulophyllin, Ergota, Gossypii Rad. Cortex, Iron Salts, Manganesii Oxidum Phosphas and Sulphas, Menyanthes, Potass. Permang., Pulsatilla, Thuja, *Auri Chloridum, Hydrastin, Santonin.*

Anæmia.—Arsenic, Calcii Phosph., Calcii Hypophosph., Ferri Bromid., Ferri Chloroxid. Liquor, Ferrum Dialysat., Ferri Hypophosph., Ferri Perchlorid., Ferri Phosph., Ferri Sulph., Pil. Ferri Carb. (Blaud), and Pil. Ferri Sulph., Phosphorus, Quinine preps., Sodii Hypophosphis, *Cetrarin, Cupri Arsenis, Liquor Ferri Albuminati, Liquor Ferri Peptonati, Liquor Ferro-Manganesii Peptonati, Tinctura Ferri Pomata, Levico Water, mild and strong, Oxygen, Strophanthus, Syrupus Trium Phosphatum.*

Anæsthetics by inhalation.—A.C.E., Æther, Æthyl Bromid., Æthyl Iodid., Carbon. Tetrachlor., Chloramyl, Chloroform, Æthideni Dichlorid., Iso-Butyl Chlorid., Methylene, Nitrous Oxide Gas, *combined Chloroform and Cocaine, Hydramyl-ether, Pental.*

Anæsthetics, Local.—Æther, Cocaine Salts, Ice, Menthol, Methyl Chloride, Rhigolene, *Acid. Carbolic.*, *Compound Anæsthetic Ether*, *Erythrophlæinæ Hydrochloras*, *Stypage Tampons of Methyl Chloride*.

Aneurism.—Aconite, Amyl Nitris (?), Digitalis, Ergotina, Nitroglycerine (?), Potassii Iodidum.

Angina Pectoris.—Æther, Æthyl Iodid., Amyl Nitris, Arsenic, Morphinæ inj. hypod., Nitroglycerini Liquor and Tabellæ, Sodii Nitris, *Iso-butyl Nitris*, *Methylal*, *Pyridina*.

Anthelmintics.—See **Parasites, Intestinal.**

Antiseptics.—See **Wounds.**

Aphthæ.—*Internal*—Acid. Nit. Dil., Potass. Chloras, Sodii Chloras.——*Local*—Acid. Boric., Acid. Sulphuros., Alumen, Bismuth, Borax, and Glyc. of, Potass. Chloras, Potass. Permang., Sodii Chloras., Sodii Chlorinat. Liquor, *Iodoform*, *Iodol*, *Lotio Nigra et Glycerini, part. æq.*

Ascarides.—See **Parasites, Intestinal.**

Asthma.—*Internal*—Æthyl Iodid., Amyl Nitris, Antimony, Arsenic, Belladonna, Caffeine, Cannabis, Cannabin Tannas, Chloral Hydras, Chloroform, Colchicum, Delphina, Euphorbia pilulifera, Grindelia, Jaborandi, Lobeliæ Tinct. and Tinct. Ætherea, Nitroglycerine, Pilocarpine, Quebracho, Stramonium.——*Local* — Acid. Sulphuros. Vapor, Arsenical Cigarettes, Chloroform Vapor, Coca or Eucalyptus leaves smoked, Potass. Nit. fumus, Pyridine, Stramonium fumes, Tobacco fumes, Bliss', Green Mountain, and Himrod's Cures by fumes, *Ammonii Bromidi Vapor.*, *Cubeb Cigarettes*, *Pulvis Lobeliæ Co.*——*Internal*—*Anemonin*, *Coca* and *Cocainæ Salicylas*, *Codeine*, *Hyoscine*, *Iso-butyl Nitris*, *Potassii Cobaltonitris*, *Sodii Nitris*.

Bed Sores. — *Local* — Acid. Tannic. Glycerin., Alcohol, Argent. Nit. in Nitrous Ether solution, Brandy, Glycerine, Iodoform. Gossyp. and Ung., Peruv. Bals., Tannin Iodoform and Starch Powder, *Resorcin*.

Bile, Deficiency of. — Hydrarg. cum Cretâ, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Taraxacum.

Biliousness.—Euonymin, Hydrastis and Hydrastin, Iridin, Juglandin, Leptandrin, Podophyllin, Sanguinarin, Seidlitz Powders, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Sodio-Magnes. Sulph. Efferves., Stillingia.

Bites and Stings.—*Local*—Alcohol, Ammon. Liquor, Arnicæ Tinct., Chloroform, Cocainæ Hydroch. Liquor, Onion Juice, Potass. Permang. (for Serpent's venom), Sodii Bicarb., Thymol and Starch powder, Thymol Ung.—*For Snake Bite.* —*Acid. Chromic.*, *Strychninæ inject. hypod.*

Bladder, Catarrh of.—See **Catarrh, Vesical.**

Boils and Carbuncles.—*Internal*— Alkalies, Arsenic, Calx Sulphurata, Ferri Perchlorid., Hypophosphites, Sulphides, Sulphurous Waters, Syr. Sulphatum, Yeast.——*Local*— Argent. Nit., Belladonnæ Glycerin. (as pigment and on poultices), Collodium, Fermenti Cataplasma, Opii Ext., *Carbolated Camphor.*—*Internal*—*Pilulæ Sulphatum.*

Brain, Softening of. — Hypophosphites, Iron Salts, Morrhuæ Ol., Phosphorus.

Breast, Inflammation of.—*Local*—Belladonnæ Ext. Glycerin. and Linim., *Phytolacca*.

Breath, Fetid.—*Local*—Acid. Salicylic., Calcii Permang., Camphora, Creasoti Vapor, Myrrh with Borax Tincture, Sanitas (Toilet).

Bright's Disease.—Alkalies, Cannabis, Digitalis, Elaterium, Hydrastis, Jaborandi and Pilocarpine, Nitroglycerine, Potass. Iodid., Scoparii Succus, *Antipyrine, Auri Chlorid., Diuretin.*

Bronchitis, Acute.—Aconite, Ammon. Acet. Liquor, Antimony, Ipecacuanha, Pulsatilla, *Apocodeinæ Hydrochloras, Cubebæ Tinct., Oxygen.*

Bronchitis, Chronic.—*Internal*—Ammon. Carb., Ammon. Chlorid., Apomorph. Hydrochl., Arsenic, Benzoates and Benzoin. Tinct., Eucalyptus Globulus, Grindelia, Morphine preps., Morrhuæ Ol., Piscidia, Prunus Virginiana, Pulsatilla, Scilla, Senega, Tar, Tolu. Bals.——*Local*—Acid. Carbolic. Vapor, Acid. Sulphuros. Vapor, Creasoti Vapor, Croton Ol. cum Collod., Croton Linim., Iodi Linim., Iodi Vapor., *Anemonin, Benzol, Creolin, Hypnal, Quillaia, Syrupus Picis Liquidæ, Terebena pura, Terpin hydrate, Terpinol, Yerba santa.*

Bruises.—*Local*—Arnicæ Tinct. (well diluted), Calendula, Hamamelis, Hazeline, *Hydrastis Tinctura.*

Burns and Scalds—*Local*—Acid. Boric Ung., Calamin. Cerat., Chartazine, Cocainæ Ceratum, Iodoform., Lini. Ol. cum Aquâ Calcis, Thymol. Ung., Vaseline, Zinci Oleat. Ung., Zinci Ung., *Aristol, Dermatol, Europhen, Lanoline, Mollin.*

Bubo.—*Local*—Chlori Aqua, Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Ung., Hydrogen. Peroxid.

Calculi, Urinary.—Alkaline Carbonates, Ammon. Benz. and Phosph., Calcis Aqua, Lithium preps., Mineral Acids (for Phosphatic), Potass. Citras, Sodii Benz. and Hippuras, *Pichi, Piperazina.*

Cancer.—*Internal*—Arsenic preps., Calx Sulphurata, Chloral Hydras and Opium preps. (as sedatives), Terebinth. Chia.——*Local*—Acid. Carbolic. (caustic), Acid. Carbolic. Glycerin., Acid. Chromic., Acid. Salicylic. cum Oleo, Bromum cum Acid. Oleic., Hydrarg. Nit. Acid. Liquor, Iodoform., London Paste, Morphine, Morphinæ Oleat., Quininæ Salicylas, Tannin and Opium, Vienna Paste, Zinci Chlorid. and Paste. *Auramine, Methyl Violet, Pyoktanin, Resorcin.——Internal—Condurango, Mist. Tereb. Chiæ.*

Carbuncles.—See **Boils.**

Cardiac Tonics—Adonidin, Adonis Vernalis, Caffeina, Convallaria, Digitalis, Erythrophlœum, Scilla, Strychnina, Veratrum viride, *Ouabaïna, Sparteinæ Sulphas, Strophanthus.*

Caries.—Calcii Chlorid., Calcii Hypophosph., Calcii Phosph., Saccharated Wheat Phosphates.

Catarrh, Bronchial.—Aconite, Actæa, Aldehyd. Vapor, Ammon. Chlorid., Antim. Tart., Ferrier's Snuff, Prunus Virginiana, Pulsatilla, Sinapis Emplast., Spt. Æther. Nitros, *Cubebæ Tinct., Eucalypti Ol., Euphorbia Pilulifera.*

Catarrh, Gastro-intestinal.—Bismuth preps., Caffeine, Eucalyptus Globulus, Hydrastis, Hydrocyanic Acid, Salines, *Betol, Bismuthi Salicylas, Collinsonia Canadensis.*

Catarrh, Vesical and Cystitis.—Acid. Lactic, Alkalies, Benzoates, Buchu, Eucalyptus Globulus, Gokhru, Hydrastis, Juniper, Pareira, Triticum repens, *Arbutin, Betol, Collinsonia Canadensis, Saccharinum, Salol.*

Catarrh, Nasal.—Acid. Carbolic. Buginarium, Bismuth. Co. Pulv., Carbolised Smelling Salts, Iodoformi Buginarium and Ung. Rosatum. *Eucalypti Oleum, Camphor inhalation, Pilula Atropinæ Quininæ et Arsenici, Menthol inhalation injection wool and snuff, Menthol and Camphor inhalation.*

Catarrh, Uterine.—*Local*—Acid. Carbolic. Glycerin., Boracis Glycerin., Camphorated Carbolic Acid, Iodoform. Gossyp. and Pessus, Plumbi Subacet. Glycerin., Opii et Amyli Enema, Zinci Sulph. Uterine Pencils, and with Alum.

Chancres, Soft.—*Local*—Hydrarg. Flav. Lotio, Hydrarg. Nig. Lotio, Hydrarg. Subchlor., Iodoform. and Ung., Plumbi Acet. Lotio, Resorcin.

Chapped Skin.—*Local*—Acid. Boric. Ung., Camphor Ball, Ceratum Petrolei, Collodium, Glycerin. cum Aquâ Rosæ, Vaseline, *Cucumeris Ung., Lanoline, Mollin.*

Chilblains.—*Local*—Acid. Boric. Ung., Acid. Carbolic. Ung., Aconit. Linim., Belladonnæ Linim. and Linim. Co., Cajuput Ol., Capsici Linim., Eucalypti Ol. Ung., Iodi Tinct. Decolor., Iodi Ung., Iodoform Wool and Ung., Oleanodyne, Plumbi Subacet. Glycerin., Glycerini Plumbi. Subacet. Ung.

Chloasma.—See **Tinea Versicolor.**

Chlorosis.—Arsenic, Ferri Amara Mist., Ferri Aper. Mist., Ferri Co. Mist., Ferri Carb. Pil. (Blaud), Ferri Dialysat. Liq., Ferri Perchlorid. Tinct., Ferri Sulph. Pil., Hypophosphites, Myrrh et Aloes Pil., Phosphorus, *Cetrarin, Cupri Arsenis, Ferri Bromid., Ferri Carb. Sacch., Hæmogallol, Hæmol, Mistura Ferri Arsenicalis, Manganesii Oxidum, Santonin, Tinctura Ferri Pomata, Levico Water, mild and strong.*

Cholera.—Camphora, Chloromorphiæ Liq., Copper Salts, Coto and Cotoin, Hydrarg. cum Cretâ., Hydrarg. Subchlorid. cum Opio, Morphina, Opium, Paracotoin, Plumbi Acet., Plumbi cum Opio Pil., *Cresol Salicylas, Cupri Arsenis, Resorcin.*

Chordee.—Aconite, Belladonna, Bromides, Camphora, Cannabis, Canthar. Tinct. (one minim hourly), Chloral Hydras, Morphinæ inj. hypod., Opii Suppos.

Chorea.—Actæa, Arsenic, Calcii Chlorid., Chloral Hydras, Cimicifugin, Conium and Coninæ Hydrobrom., Curara, Ergota, Ferri Bromid., Ferri Phosph., Morrhuæ Ol., Phosphorus, Physostigma and Physostigmine, Strychnine, Valerianates, Zinci Bromid. and Oxid., *Antipyrine, Cannabis and Chloral, Inula Helenium, Scutellarin.*

Colic.—Æther, Belladonna, Calcis Aqua (for infants), Cajuput. Ol., Camphora, Chloroform, Chloromorphiæ Liq., Menth. Pip. Ol., Morphine preps., Opium preps., *Tinctura Carminativa.*

Collapse and Fainting.—Æther inj. hypod., Æther. Spt., and Spt. Co., Alcohol, Ammon. Arom. Spt., Ammon. Vapor, Amyl Nitris., Digitalis Tinct. and Inj. Hypod. 20 m.

Conjunctivitis.—*Local*—Acid. Boric., Alumen, Belladonna, Boroglyceride, Hydrarg. cum Morphinâ Oleat., Hydrarg. Oxid. Flav. Ung., Hydroquinone, Opii Vinum, Resorcin, Zinc. Sulph. Lotio, *Iodol.*

Conjunctivitis, Diphtheritic. — *Local* — Quininæ Sulph. Lotio., Hydroquinone, Resorcin, *Iodol.*

Constipation.—Aloes and Aloin, Belladonna, Cascara, Coloc. Co. Pil., Coloc. Co. cum Hyoscy. Pil., Emblic Myrabolans, Glycyrrh. Co. Pulv., Hydrarg. Subchlorid., Iridin, Juglandin, Magnes. Sulph., Nux Vomic., Podophyllin, Rhamnus Frangula, Rhei Co. Pil., Rhei Co. Pulv., Ricini Ol., Scammon. Co. Pil., Seidlitz Powders, Senna, Sennæ Confect., Sennæ Co. Mist., Sodii Phosph. Efferves., Sodii Sulphas Efferves., Sodio-Magnes. Sulph. Efferves., Sulphur, Sulphur. Confect., *Cascara Sagrada and Capsules Elixir Pastils and Syrup of, Convolvulin, Eseridina, Gluten Suppositoria, Glycerini Inject. and Suppos., Jalapin, Ricini Ol. Mist., Sennæ Elixir, Sodii Sulpho-vinas, Tinct. Laxativa.*

Convulsions. — Amyl Nitris, Anæsthetics, Camphor. Monobrom., Chloral Suppos., Morphine preps., Podophyllin, Potassii Bromid., Sodii Bromid., Sodii Nitris.

Convulsions, Puerperal.—Anæsthetics, Chloral Hydras, Nitroglycerine, Pilocarpine, *Veratrum viride.*

Cornea, Inflammation, and Ulcers of.—*Local*—Atropine, Belladonna, Cocain. Hydroch. Liquor, Daturine, Duboisine, Eserine, Hydroquinone, Pilocarpine, Hydrarg. Oxid. Flav. Ung., Hydrarg. Subchlorid., *Infusum Abri.*

Corns.—See **Warts.**

Coryza.—See **Catarrh Nasal,** and **Hay Fever.**

Cough.—Acid. Hydrobromic., Belladonna, Benzol, Bryonia, Camphor. Co. Tinct., Chloral Hydras, Codeina, Conium, Gelsemium, Helenin, Hyoscyamus, Morphinæ Linctus, Morphinæ Troch., Morphinæ et Ipecac. Troch., Narceina, Opium preps., Picis Liq. Pil., Piscidia, Prunus Virginiana, Terpin Hydrate, *Creasote inhaled, Terebena pura, Terpinol.*

Croup, True.—*Internal*—Acid. Lactic., Aconite and Aconiti Pastillus, Alumen, Ammon. Carb., Antimony, Bromides, Calcii Sulphid., Ipecacuanha, Zinci Sulph.——*Local*—Acid. Lactic. Nebula, Acid. Sulphuros. Nebula, Acid. Tannic. Nebula, Calcis Aquæ Nebula, *Inula Helenium.*

Croup, False.—See **Laryngismus Stridulus.**

Cystitis.—*Acidum Camphoricum.*

Debility.—Alcohol, Arsenic preps., Calcii Phosph., Calumba, Cinchona preps., Gentiana, Hypophosphites, Iron Salts, Maltum, Morrhuæ Ol., Phosphorus, Quassia, Quinine preps., Strychnine, *Calcii Hypophosph. Syrup, Elixir Ferri Quininæ et Strychninæ Phosphatum, Morrhuol, Levico Water, mild and strong.*

Delirium Tremens, and see **Alcoholism.**—Alcohol, Ammon. Carb., Bromides, Camphora Monobromata, Capsicum, Chloral, Digitalis, Hyoscyamine, Opium preps., Phosphorus, Quinine preps., Strychnine, Veratrum viride, *Antifebrin, Hyoscine, Methylal, Sulphonal.*

Diabetes.—Acid. Lactic., Codeina, Convallaria, Glycerine, Hydrogen Peroxide, Jaborandi, Opium, Oxygen, Ozonic Ether, Sodii Salicylas, Thymol, Sodii Arsenias, Uranii Nitras, *Antipyrine, Codeinæ Pil. Comp., Creasotum, Jambul, Morphina, Oxygen, Phosphorus, Saccharin, elixir and tabellæ of, Soya bread.*

Diarrhœa.—*Internal* — Acid. Carbolic., Acid. Gallic., Acid. Sulph. Dil. and Aromat., Agaricus albus and Agaricin, Anthemis, Bismuth preps., Calcis Aqua, Calcii Carb., Camphora, Catechu, Coto Tinct., Cotoin, Cretæ Arom. Pulv., and cum Opio, Cupri Sulph., Eucalyptus Gum., Ferri Pernit. Liq., Guarana, Hydrarg. cum Cretâ, Ipecac. Co. Pulv., Kino, Leptandrin, Myricin, Opium preps., Plumbi Acet., Podophyllin, Ricini Ol.——*Local*—Acid. Tannic. Suppos., and cum Opio, Amyli Enema, and cum Opio, Gallæ Suppos. and cum Opio, Turpentine Stupes.——*Internal—Abies Canadensis, Acid. Camphoric., Acid. Lactic., Benzo-naphthol, Berberina, Bismuthi Salicylas, Bismuthi et Cerii Salicylas, Calcii Salicylas, Cannabis, Cupri Arsenis, Ferri Salicylas, Geranium maculatum, Naphthalin, Naphthol, Quininæ Salicylas, Resorcin, Safrol, Sodii Phosphas.*

Diphtheria.—*Internal*—Acid. Salicylic., Calx Sulphurata, Ferri Perchlorid., Pilocarpine, Sodii Hyposulphis., Sodii Chloras.——*Local*—Acid. Benzoic. Nebula, Acid. Carbolic. Glycerin. and Nebula, Acid. Lactic. Nebula, Acid. Sulphuros. Nebula, Argent. Nit., Calcis. Aquæ Nebula, Chinoline, Chlori Aqua, Eucalypti Ol. and Vapor, Hydroquinone, Papayotin, Pepsin. Glycerin. Acid., Resorcin, Sodii Benzoatis Nebula, Sodii Chlorinat. Liquor, *Acid. Salicylicum and Sulphurosum, Bromol, Inula and oil pigment, Iodol pigment, Menthol pigment, Naphthol cum Camphora, Ozonic Ether, Papain pigment, Sodii Benzoas, Tribromophenol.*

Dipsomania.—See **Alcoholism.**

Dropsy, Cardiac.—Asparagin, Caffeine, Convallaria majalis, Delphina, Digitalis, Digitalin, Elaterium, Erythrophlœum, Strophanthus, Veratrum Viride.

Dropsy, Hepatic.—Ammon. Benzoas, Ammon. Chlorid., Copaibæ Bals., Hydrarg. Pil., Hydrarg. Subchlorid., Sodii Bicarb., Taraxacum, *Sparteinæ Sulphas, Ulexine.*

Dropsy, Renal.—Apocynum Cannabinum, Buchu, Delphina, Elaterium, Hydrarg. Pil., Jalapa, Juniperus, Pilocarpine, Potass. Acet., Potass. Tart. Acida, Potassii Iodid., Potass. Nit., Scilla, Sodii Iodid., *Blatta orientalis.*

Dysentery.—Belæ Fructus, Eucalypti Gum., Guarana, Hæmatoxylum, Hamamelis, Hydrarg. Perchlorid., Ipecacuanha, Ipecac. Co. Pulv., Opium, Plumbi Acetas, Terebena pura, Terebinth. Ol., and Stupes of, *Bismuthi et Cerii Salicylas, Cannabis, Cupri Arsenis, Ipecacuanha sine Emetina, Naphthalin.*

Dysmenorrhœa.—Actæa, Æther Spt. cum Opii. Tinct., Amyl Nitris, Anemonin, Apiol, Butyl Chloral, Cannabis and Cannabin Tannas, Carbon. Tetrachlor. Vapor, Cimicifugin, Gossypii Rad. Cort., Potass. Bromid., Pulsatilla, Serpentaria, Valerian, *Antipyrine, Cannabis and Chloral, Hydrastis, Salix nigra, Sodii Salicylas, Viburnum prunifolium.*

Dyspepsia.—Acid. Carbolic. Perle and Pil., Acid. Nit, Dil., Acid. Hydroch. Dil., Aloes and Aloin, Ammon. Carb., Argent. Nit. and Oxid., Arsenic, Belladonna, Bismuth. Carb. Oxychlorid. and Subnit., Capsicum, Cerii Oxalas, Creasote, Emblic Myrabolans, Gentiana, Gingerin, Hydrarg. cum Creta, Hydrastis, Hydrocyanic Acid, Leptandrin, Malti Ext., Menispermin, Nux Vomica, Pancreatin, Papayotin, Pepsin, Podophyllin, Quinine preps., Rhei Rad., Rumicin, Salicin, Sanguinarin, Sodii Bicarb., Sodii Sulphocarb., Stillingia. *Condurango, Orexine, Papain Glycerin. Acid., Pepsin and Bismuth tablets, Sodii Hyposulphis, Sodii Taurocholas, Strontii Lactas, Troch. Antacidi.*

Dyspnœa.—Æther Spt., Æthyl Iodid., Alcohol, Amyl Nitris, Lobelia, Ozonic Ether, Quebracho and Aspidospermine, *Nitroglycerine, Potassii Cobalto-nitris, Sodii Nitris.*

Earache.—*Local.*—Atropinæ Liquor or Oleatum (diluted), Chloroformi Vapor, Cocaina cum Oleo, Morphinæ Oleatum (diluted), Opii Tinct. cum Oleo, *Delphina in Spirit or in Ung.*

Eczema.—*Internal*—Arsenic preps. Iron Salts, Morrhuæ Ol., Phosphorus, Sulphides, Sulphur.——*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Chrysarobini Ung. (weak), Acid. Salicylic. Ung., Bismuth Nit. Glycerin., Calaminæ Lotio, Calcis Aqua, Calcis Linim., Diachyli Ung., Huile de Cade, Kaolin Ung., Naphthol, Plumbi Stearas, Plumbi Subacet. Glycerin. and Ung., Tar, Thymol, Zinci Cremor, Zinci Oleat. Pulv. and Ung., Zinci Ung., *Aristol, Creolin, Dermatol, Europhen, Ichthyol and Collodion and paste of, Lanoline, Mollin, Resorcin, Thio-resorcin, Thiol, Zinci Boras, Alkaline lotions.*

Epilepsy.—Ammon. Bromid., Amyl Nitris, Argent. Nit., Arsenic, Atropine, Belladonna, Borax, Bromal-Hydras, Brucia, Camphora Monobromata, Cannabis, Cupri Ammon-Sulph., Cypripedin, Iron Salts, Ozonic Ether, Picrotoxin, Potass. Bromid., Simulo, Sodii Bromid., Sodii Nitris, Strychnine, Valerianates, Zinci Bromid., Citras, Lactas, and Sulphas, *Æthyleni Bromid., Amyleni Hydras, Antifebrin, Auri Bromid. and Chlorid., Elepizone, Nitroglycerine tablets or Liquor, Rubidium-Ammonium Bromide, Scutellarin, Strontii Bromid., Viscum album.*

Epistaxis.—*Internal*—Acid. Gallic., Aconite, Digitalis, Ergotin inj. hypod., Ferri Perchlorid., Ferri Pernit. Liq., Ferro-Alumen, Hamamelis, Terebinth. Ol.——*Local*—Acid. Tannic., Alumen, Hamamelis, Matico, Styptic Colloid, *Ferri et Quininæ Chloridum.*

Erysipelas.—*Internal*—Aconite, Belladonna, Digitalis, Ergot, Ferri Perchlorid., Veratrum viride.——*Local*—Acid. Sulphuros. Lotio, Amylum, Amyli Glycerin., Argent. Nit., Belladonnæ Glycerin., Calaminæ Lotio, Cocainæ Ceratum, Collodium, Creasotum et Amylum, Ergotine in Sol., Gossyp. Acid. Boric., Iodi Pigment., Potassii Silicatis Sol., *Antifebrin, Acid. Picric. Pigment.*

Erythema.—*Local*—Amyli Glycerin., Anthemid. Infus., Diachyli Ung., Kaolin and Lotio or Ung., Papav. Infus., Plumbi Subacet. Lotio., Vaseline, Zinci Oxid. and Ung.

Exophthalmic Goitre.—Belladonna, Digitalis, Duboisine, Iron Salts, Quinine preps.

Eye: Pupil, Contractors of.—Jaborandi and Pilocarpine, Opium and Morphine, Physostigma, Physostigmine.

Eye: Pupil, Dilators of.—Belladonna and Atropine, Cocaine, Daturine, Duboisine, Homatropine, Hyoscyamine, Nicotine, *Hyoscine salts, Mandragorine, Salicylate and Santonate of Atropine.*

Eye: Local Dilators, but Contract when given internally in suitable doses.—Gelseminine, Muscarine.

Fainting.—See **Collapse.**

Favus.—See **Parasites, Vegetable, of Skin.**

Fetid Breath.—See **Breath, Fetid.**

Fetid Perspiration.—See **Perspiration, Fetid.**

Fetid Nasal Discharges.—See **Ozæna.**

Fever.—Acid. Salicylic., Aconite, Ammon. Acet. Liq. and Carb., Antimony, Antipyrine, Belladonna, Chinoline, Cinchonine, Cinchonidinæ Sulph., Digitalis, Eucalyptus Globulus, Gelsemium, Kairine, Piperine, Potass. Acet. Chloras and Citras, Quinine preps., Quinidinæ Sulph., Quinetum, Salicin, Sodii Salicylas, Thallin, Veratrum viride, Warburg's Tincture, *Acetanilide, Acid. Cresotic., Antifebrin, Antithermin, Benzanilide, Euphorin, Hydracetin, Methacetin, Monobromacetanilide, Phenacetin, Phenazone, Phenocoll Hydrochlor., Pyrodin, Salipyrin, Sodii Cresotas.*

Fissures of Nipples.—*Local*—Acid. Tannic. Glycerin., Alcohol, Argent. Nit., Calcis Aqua, Cocainæ Hydroch. Liquor, Collodium Flexile, Hydrastis Tinct., Plumbi Subacet. Glycerin., Styptic Colloid.

Flatulence.—Acid. Carbolic., Acid. Sulphuros., Æther. Spt., Asafœtida, Bismuth preps., Capsicum, Carbo Ligni, Chloromorphiæ Liquor, Creasote, Magnesia preps., Menispermin, Menth. Pip. Ol., Nux Vomica, Sodii Bicarb., Sulphocarbolates, Zingiberis Tinct., *Tinct. Carminativa.*

Gall Stones and Hepatic Colic.—Æther Spt., Amyl Nitris, Anæsthetics, Chloral Hydras, Iridin, Morphine preps., Nitroglycerine, Podophyllin, *Perles of Ether and Turpentine.*

Gastralgia.—Acid. Hydrocyanic. Dil., Æther. Spt., Alkalies, Belladonna, Bismuth, Calcis Aqua, Cerii Oxalas, Chloroform, Chloromorphiæ Liq., Creasote, Magnesia, Manganesii Oxid., Pepsin, *Bismuthi Salicylas, Coca and Cocaina, Codeina.*

Gastric Catarrh.—See **Catarrh, Gastric.**

Gastro-enteritis.—*Calcii Salicylas, Sodii Cresotas, Strontium Salts.*

Glands, Enlarged.—*Internal*—Calcii Chlorid., Ferri Iodid. and Iron Salts, Iodoform, Iodum, Morrhuæ Ol., Potass. Iodid., Sodii Iodid.——*Local*—Cadmii Iodid. Ung., Hydrarg. Oleat. and Emplast., Iodi Decolor. Tinct., Iod. Linim. and Ung., Potass. Iodid. Ung.

Glaucoma.—*Local*—Physostigminæ Sulph., Pilocarpina.

Gleet.—See **Gonorrhœa.**

Goitre.—*Internal*—Acid. Hydrofluoric. Dil., Hydrarg. Biniodid., Iodum, Phosphorus, Potass. Iodid., Sodii Iodid, ——*Local*—Acid. Acetic. inj. hypod., Acid. Osmic. inj., Hydrarg Biniodid. Ung., Hydrarg. Oleat., Hydrarg. Ung., Iodi inj. hypod. T.H., Iodi Linim. and Ung.

Gonorrhœa.—*Internal*—Aconite, Copaiba, Cubebs, Iron Salts, Potash Salts, Saline Aperients, Santali Ol.——*Local*—Acid. Carbolic., Acid. Sulphuros., Acid. Tannic., Argent. Nit., Belladonna, Bougies Urethral (see Index), Eucalyptus

Oil emulsified, Hydrarg. Perchlor., Hydrastis Tinct., Iodoform, Iodof. et Eucalypti Cereolus, Iodoformi Cereolus, Potass. Permang., Sodii Silicat. Sol., Zinci Chlorid. Permang. and Sulphocarb., *Antrophores of Thallin, Bismuthi Oxyiodidum, Europhen, Wood Wool Bags.——Internal—Acid. Cubebic., Kava-Kava, Resorcin, Salix nigra.*

Gout.—Aconite, Asparagin, Colchicum and Colchicin, Coto and Cotoin, Guaiacum, Lithii Carb. and Citras, Manganese Salts, Potass. Citras and Iodid., Sodii Phosph., Sodii Benzoas Hippuras and Iodid., Sulphides, *Bromal Hydras, Kava-Kava, Lithii Hippuras, Piperazine and Aërated Water of, Sodii Taurocholas, Siegesbeckia orientalis.—Local—Morphinæ Inject. Hypod.*

Gums, Inflamed, and Spongy.—*Local*—Alumen, Iodi Tinct., and cum Aconiti Tinct., Krameriæ Tinct., Myrrhæ et Boracis Tinct., Potass. Chloras, Pastil, Tablet and Troch., Pyrethri Tinct., Sodii Chloras and Troch., *Acid. Carbolic.*

Hæmatemesis.—Acid. Gallic., Acid. Sulph. Dil., Alumen, Ergota, Hamamelis, Iron Persalts, Plumbi Acet., Terebinth. Ol.

Hæmaturia.—Acid. Gallic., Antimony, Camphor, Cannabis, Ergota, Ferro-Alumen, Hamamelis, Terebinth. Ol.

Hæmoptysis.—Acid. Gallic., Acid. Pyrogallic., Acid. Sclerotic., Acid. Sulph. Dil., Alumen, Digitalis, Ergota and Ergotin, Hamamelis, Opium., *Abies Canadensis, Antipyrine, Atropine.*

Hæmorrhage.—*Internal*—Acid. Gallic., Acid. Pyrogallic., Acid. Sclerotic., Acid. Sulph. Dil., Cupri Sulph., Digitalis, Ergota, Ergotin, Eucalyptus Gum, Ferro-Alumen, Hamamelis, Iron Persalts, Plumbi Acet., Terebinth. Ol.——*Local*—Acid. Tannic., Alumen, Catechu, Cupri Sulph., Eucalyptus Gum, Ferri Perchlorid., Ferro-Alumen, Hamamelis, Matico, Styptic Colloid, Zinci Chlorid. Liq.——*Internal—Cornutine, Ferri et Quininæ Chlorid., Hæmatoxylum, Potassii Succinas.—Local—Bryonia.*

Hæmorrhage, Post Partum.—*Internal*—Acid. Sclerotic., Amyl Nitris, Ergota, Ergotin inj. hypod., Ergotinini inj. hypod., Gossypii Rad. Cort., Opium with Alcohol.——*Local*—Alumen, Ferri Perchlorid. Gossyp. and Liquor.——*Internal—Caffeinæ inject., Cannabis and Chloral, Cornutine, Ferri et Quininæ Chlorid., Nux vomica, Strychnina and salts.*

Hæmorrhoids.—*Internal*—Aloes, Cascara Sagrada, Hamamelis, Liquiritiæ Co. Pulv., Piper. Conf., Rhamnus Frangula, Senna and Conf., Sulphur, *Rhus Toxicodendron.*——*Local*—Acid. Boric. Ung., Acid. Nit. (caustic), Gallæ cum Opio. Ung., Hamamelis, and Suppos. of, Plumbi. Subacet. Glyc. and Ung. *Chrysarobin, Coninæ Ung., Hamamelid. Spir.*

Hay Fever.—*Internal*—Ammonii Chlorid., Anthoxanthum, Belladonna, Grindelia, Potass. Iodid., Quinine preps. ——*Local*—Acid. Salicylic. Pulv., Bismuth. Co. Pulv., Carbolised Smelling Salts, Carbon. Tetrachlor. Vapor, Cocain. Hydroch. Liquor, Quininæ Collunarium, Stramonium Fumes. *Douche of Iodide of Mercury*, 1 *in* 2000—*Inhalation—Camphor, Eucalypti Oleum, Menthol, Menthol and Camphor.—Internal—Euphorbia Pilulifera, Zinci Valerianas.*

Headache, Bilious or Sick—Euonymin, Guarana, Hydrastis, Iridin, Juglandin, Leptandrin, Myricin, Podophyllin, Sodii Phosph. Efferves., Sodii Sulph. Efferves., Sodio-Magnes. Sulph. Efferves.

Headache, Congestive or Inflammatory.—Actæa, Ammon. Chlorid., Antimony, Crotonis Ol., Hydrarg. Subchlorid., Ricini Ol., Veratri Viridis Tinct., *Salicylates of Sodium &c.*

Headache, Nervous.—Acid. Hydrocyanic., Actæa, Ammon. Arom. Spt., Arsenic, Belladonna, Bromides, Butyl Chloral, Caffeine, Camphora, Cannabis, Cimicifugin, Ferri Valerianas, Guarana, Iron Salts, Nitroglycerine, Quininæ Valerianas, Theine, Zinci Lactas Oxidum and Valerianas, *Antipyrine, Auri Bromid., Methylene Blue, Phenacetin, Phenazone.*

Hectic Fever.—Acid. Benzoic. and Benzoates, Acid. Salicylic., Acid. Sulph. Aromat., Agaricus albus and Agaricin, Gelsemium, Quinine preps., Salicin, Salicylates, *Phenocoll.*

Herpes, and Zoster.—*Internal*—Morphinæ. inj. hypod. (for pain), Quinine preps., Salines and Saline Aperients.—— *Local*—Amyli Glycerin., Cocainæ Ceratum, Collodium, Hydrarg. Ammon. Ung., *Ichthyol*, Menthol (for pain), Vaseline, Zinci Oleat. Ung., Zinci Ung.

Hiccough.—Æther. Spt., Camphora, Chloral, Chlorof. Spt., Morphine preps., Sodæ Bicarb., *Amyl Nitris.*

Hordeolum.—*Local*—Argent. Nit., Belladonnæ Fotus, Hydrarg. et Morphinæ Oleat., Iodi Tinct.

Hydrophobia.—Anæsthetics, Amyl Nitris, Cannabis Indica and Cannabin, Chloral, Curara, Morphine, Nitroglycerine, Pelletierine, Physostigma and Physostigmine, Pilocarpine, *Hoang Nan, Hydrogen Peroxide.*

Hysteria.—Actæa, Asafœtida, Bromides, Cannabis Indica, Cypripedin, Iron Salts, Nux Vomica, Phosphorus, Pulsatilla, Quinine preps., Strychnine, Valerian and Valerianates, Zinc Salts, *Auri Chlorid., Cannabin Tannate.*

Impetigo.—*Internal*—Arsenic, Iron Salts, Mineral Acids, Morrhuæ Ol., Phosphorus, Quinine preps., Zinc Salts.—— *Local*—Acid. Tannic. Glycerin., Hydrarg. Ammon. Ung., and Hydrarg. Ammon. cum Sulph. Ung., Iodoform. and Ung., Zinci Oleat. Ung., Zinci Oxid. Ung.

Impotence.—Arsenic, Cannabis Indica and Cannabin Tannas, Cantharides, Coca and Cocaine, Damiana, Ergota and Ergotin, Ferri Perchlorid., Nux Vomica, Phosphorus, Sanguinaria, Strychnine, Zinci Phosphid.

Incontinence of Semen.—Belladonna, Ergota, Ferri Perchlorid., Ferri Phosph., and Ferri Quin. Strych. Phosph. Syrup., Gokhru, *Antipyrine, Salix nigra.*

Incontinence of Urine.—Belladonna, Calcii Phosph., Cantharides, Ergota, Ferri Iodid., Ferri Perchlorid., Gokhru, *Antipyrine, Camphor. Monobrom., Lycopodii Tinct., Naphthalin.*

Indigestion.—See **Dyspepsia.**

Inflammation.—*Internal*—Aconite, Antimony, Belladonna, Digitalis, Gelsemium, Hydrarg. Subchlorid. and cum Opio, Opium, Quinine preps., Salicin, Veratrina, *Antifebrin, Antipyrine, Kairin.*

Influenza.—Actæa, Ammon. Acet. Liq., Æth. Nit. Spt.

Ammoniæ Spt. Aromat., Antim. Tart., Camphor, Hydrocyanic Acid, Ipecac. Co. Pulv., Opium and Morphine preps., Quinine preps.——*Local*—Cocain. Hydroch. Liquor., Inhalations of Eucalypti Ol. Menthol, Menthol and Camphor.—Internal—Salicinum, Sodii Salicylas, *Acid. Carbolic., Benzol, Cinnamomi Ol., Phenacetinum.*

Insomnia.—Ammon. Bromid., Bromal Hydras, Butyl Chloral, Camphor, Camphor Monobrom., Cannabis Indica and Cannabin, Chloral, Coca, Codeina, Hyoscyamine, Lupulin, Morphine, Narceine, Opium, Paraldehyde, Papaverina, Piscidia, Potassii Bromid., Sodii Bromid., Stramonium, *Acetanilide, Acetophenone, Antifebrin, Antipyrine, Amyleni hydras, Bromidia, Chloralamide, Chloralimide, Chlorobrom, Hypnal, Hypnone, Metaldehyde, Methylal, Phenazone, Strychnina and its salts, Somnal, Sulphonal, Tetronal, Trional, Uralium, Urethane.*

Intertrigo.—Acid. Boric. and Ung., Acid. Tannic. Glycerin., Calaminæ Lotio, Calcis Aqua, Calcii Carb., Camphor, Fuller's Earth, Kaolin, Vaseline, Zinci Cremor and Ung., Zinci Oleat. Pulv.

Intestinal Worms.—See **Parasites, Intestinal.**

Iritis.—*Internal*—Colchicum, Iodum, Hydrarg. Perchlorid. and Subchlorid., Potass. Iod.——*Local*—Atropina cum Vaselin., Atropinæ Sulph. Guttæ and Lamellæ, Belladonna, Duboisine.

Itch.—See **Scabies.**

Jaundice.—Acid. Nitro-Hydroch. Dil., Aloes, Ammon. Chlorid., Benzoates, Euonymin, Hydrarg. cum Cretâ, Hydrarg. Subchlor., Hydrastis, Iridin, Manganesii Oxid. and Mangan. Sulph., Podophyllin, Sennæ Co. Mist., Sodii Phosphas and Sodii Phosph. Efferves., Sodii Sulphas, and Sodii Sulph. Efferves., Stillingia, Taraxacum, *Ferri Succinas.*

Laryngismus Stridulus.—Amyl Nitris, Bromides, Chloral, Coninæ Hydrobrom., Emetin, Piscidia.

Laryngitis, Acute.—Aconiti Tinct. and Pastil., Æthyl Iodid. (for Œdema), Ammon. Acetat. Liq., Antimony, Benzoini Vapor, Hydrarg. Subchlor., Juniper. Vapor, Pulsatilla, Thymol Vapor, Acid. Tannic. et Aluminis Gargarisma Acid. Tannic. Glycerin, Argent. Nit.——*Local—Acid. Lactic.*

Laryngitis, Chronic.—*Local*—Bismuthi Oxychloridi cum Morphinâ Insufflatio, Catechu Pulv. Insufflatio, Creasoti Vapor, Eucalypti Gum. Insufflatio, Juniperi Vapor, Pini Sylvestris Vapor, *Menthol paint and insufflation.*

Leprosy.—Anacardium, Gurjun Balsam, Gynocardiæ Ol., *Hoang Nan.*

Leucocythemia.— Digitalis, Hypophosphites, Iodine, Iron Salts, Phosphorus, Zinci Phosphid.

Leucorrhœa.—*Internal*—Iron Salts, Mineral Acids, Vegetable Tonics.——*Local*— Acid Carbolic. Lotio, Acid. Boric. Lotio, Alumen, Hydrastis, Pulsatilla, Potassii Permang., Sodii Silicat. Liquor, Tannin and Alum Injection, Zinci Sulphocarbolas, *Abies Canadensis, Boric Acid in powder.*

Locomotor Ataxy.— Argent. Nit., Argent. Oxid. Morrhuæ Ol., Phosphorus, Physostigma, Pilocarpine, *Acetanilide, Aluminii Chlorid., Antifebrin, Antipyrine, Phenazone.*

Lumbago.—*Internal*—Actæa, Atropine,Belladonna,Capsicum,Cimicifugin,Colchicum,Colocynthis,Morphina inj. hypod., Potass.Iodid.——*Local*—Atropinæ Linim.,Belladonnæ Linim., Capsici Linim., Menthol Linim., Opii Linim., Picis Empl., Veratrinæ Ung.

Lupus.—*Internal*—Amyli Iodid., Arsenic, Gynocard. Ol., Iodum, Morrhuæ Ol., Phosphorus, Quinine preps.——*Local*—Acid. Chromic., Camphora Salicylata, Gynocardiæ Ung., Iodoform, Petrolei Ceratum, Zinci Chlorid. Pasta, Zinci Ung., *Acid. Lactic., Auri Chlorid., Hydroxylamine, Lassar's Paste, Lysol, Potassii Cantharidas, Tuberculin, Tuberculocidin, Resorcin.*

Mammary Abscess.—See **Breast, Inflammation of.**

Mania.—Actæa, Atropine, Bromides, Cannabis and Cannabin Tannas, Chloral Hydras, Conine, Daturine, Digitalis, Duboisine, Gelsemina, Hyoscyamine, Morphine preps., Opium preps., Paraldehyde, *Hyoscine salts, Sulphonal.*

Measles.— Aconite, and Pastil of, Æther Nit. Spt., Ammon. Acet. Liq., Ammon. Carb., Ipecacuanha, Potass. Tart. Acida.

Melancholia.—Bromides, Camphora, Coca and Cocaine, Cannabis, and Cannabin Tannas, Musk, Nux Vomica, Phosphorus, Valerianates, *Damiana.*

Menière's Disease.—Acid. Salicylic., Bromides, Gelsemium, Gelsemine, Pelletierine.

Menorrhagia.—Acid. Gallic., Acid. Sclerotic., Acid. Sulph. Dil., Bromides, Cannabin, Digitalis, Ergota, Ergotin, Ferro-Alumen, Hamamelis, Iron Persalts, Vinca Major, *Hydrastis.*

Migraine.—See **Headache, Nervous.**

Milk, to increase flow.— Acid. Lactic., Jaborandi and Pilocarpine, Malti Ext.——*Local*—Jatropha Curcas, and Ricinus Communis, leaves and oil of.

Milk, to arrest flow.—*Internal*—Agaricus albus and Agaricin, Belladonna and Atropine, Conium, Ergota, Saline Purgatives, Sodii Iodid.—— *Local* — Belladonnæ Empl. Glycerin. and Linim., Tabaci Cataplasm.

Morphine Habit.—*Cactus, Cocaina, Sodii Bromidum, Sparteinæ Sulphas.*

Myalgia.—*Internal*—Actæa, Ammon. Chlorid., Atropinæ inj. hypod.,Cimicifugin,Iron Salts,Morphinæ inj.hypod.,Salicylates.——*Local*—Belladonnæ Glycerin. and Linim., Capsici Empl. and Linim., Ether Spray, Iodi Linim., Menthol, Opium (in poultice), Veratrinæ Ung.

Myxœdema.—Arsenic, Iron Salts, Jaborandi, Nitroglycerine, Pilocarpine, Strychnine Preps.

Nasal Catarrh.—See **Catarrh, Nasal.**

Nævi.—*Local*—Acid. Chromic., Acid. Nitric., Collodium, Sodii Ethylas, Zinci Chlorid. Iodid. and Nitras.

Nephritis.—Buchu, Copaiba,Gokhru, Hordei Dec., Jaborandi,Lini. Infus.,Pareira,Santal.Ol.,Triticum Repens,Uva Ursi., *Rubus Chamæmorus.*

Nervous Debility, Nervousness.—Acid. Hydrobromic., Acid. Phosph. Dil., Ammon. Bromid., Asafœtida, Camphora, Chloral Hydras, Cimicifugin, Cypripedin, Ignatiæ Tinct., Lavand. Co. Tinct., Phosphorus, Piscidia, Potass. Bromid., Quinine preps., Quininæ Valerianas, Salicin, Scutellarin, Strychnine, Sumbul, Zinci Valerianas, *Sulphonal*.

Neuralgia.—*Internal*—Aconite, Actæa, Ammon. Chlorid., Ari Succus, Arsenic, Beberinæ Sulph., Bromides, Butyl Chloral, Caffeine, Chloral-Hydras, Cinchonine, Cinchonidinæ Sulph., Colchicum and Colchicine, Conium and Coninæ Hydrobromas, Gelsemium and Gelsemin, Hyoscyamine, Iron Salts, Narceine, Nitroglycerine, Phosphorus, Quinine preps., Quininæ Hydrobrom., Theine, Tonga. —— *Local* — Aconiti Linim., Aconitinæ Ung., Belladonnæ Linim. and cum Chloroform., Chloral Hydras cum Camphor, and cum Menthol, Chloroform, Delphinæ Ung., Menthol, Menthol Linim., Morphinæ Oleat., Oleanodyne, Opii Linim., Po-ho-yo, Veratrinæ Ung., *Æther (injected), Æthyl Chlorid., Belladonnæ Collodium et Tinct. Ætherea, Chloroformum Aconiti, Delphina, Menthol cum Aconitina, Methyl Chloridum.*—*Internal*—*Antipyrine, Cannabina, Exalgin, Euphorin, Methylene Blue, Monobromacetanilide, Phenacetin, Phenazone, Salicylates and Salol.*

Night Sweats.—Acid. Gallic., Acid. Sulph. Aromat., Agaricus albus and Agaricin, Amyl Nitris, Atropine and inj. hypod., Belladonna, Calcii Chlorid., Coto and Cotoin, Homatropine, Hypophosphites, Ipecac. Co. Pulv., Iron Salts, Jaborandi and Pilocarpine, Muscarinæ Nit., Picrotoxin, Quinine preps., Zinci Oxid., *Acid. Camphoric., Acid. Hypophosph. and Hypophosphites, Guaiacol Carbonate, Sodii Telluras.*

Nipples, Fissures of, and Sore.—See **Fissures of Nipples.**

Nymphomania and Satyriasis. — Bromides, Camphor, Conium, Tabaci Folia.

Obesity.—Alkalies and Alkaline Carbonates, Fucus Vesiculosus, Iodum, Potassii Iodidum.

Ophthalmia.—See **Conjunctivitis.**

Ophthalmia Tarsi.—*Local*—Acid. Boric. Lotio and Ung., Hydrarg. Oxid. Flav. Ung., Iodoform. Ung., Glycerini Plumbi Subacetatis Ung.

Orchitis.—Anemonin, Phytolacca.

Otorrhœa.—*Local*—Acid. Tannic. Glycerin., Argent. Nit. and Bism. Insuffl. T.H., Alum. Insuffl., Alum and Bism. Insuffl. T.H., Calendula, Carbonis Deterg. Liq. (as Lotion), Acid. Boric. Insufflat., Iodoform Wool and Insuffl. cum Bismutho T.H.

Ozæna.—*Local*—Acid. Boric. Lot. and Ung., Acid. Carbolic. Buginarium, Aldehydi Vapor, Alumen, Alumin. Acet. Liq., Creasoti Vapor, Cupri Sulph. Buginarium, Eucalypti Globuli Infus. and Tinctura, Iodoformi Buginarium, Iodoformi Rosat. Ung., Potass. Permangan. Lotio, Sanitas (toilet), Sodii Chlorinat. Liq., Sodii Chlorid., Sodii Silic. Sol., Thymol Lotio, Zinci Sulphocarb., Zinci Sulph. Buginarium, *Aristol, Europhen, Menthol spray and pigment, Hydrocotyle Asiatica.*

Palpitation.—Aconite, Bromides, Camphora, Cannabis, Cimicifuga, Convallaria, Digitalis, Valerianates.

Paralysis Agitans. — Hypophosphites, Hyoscyamus, Iron Salts, Phosphorus, Physostigma, Strychnine, *Hyoscina.*

Paralysis, Diphtheritic.—Iron Salts, Pepsin, Nux Vomica, Ferri Iodid.

Paralysis, Hemiplegia.—Ergota, Iron Salts, Nux Vomica, Phosphorus, Physostigma and Physostigmine, *Damiana.*

Paralysis, Paraplegia.—Ergota, Hypophosphites of Iron, Calcium and Sodium, Iron Salts, Ergota, Phosphorus, Physostigma and Physostigmine, Rhois Tinct., Strychnine, *Damiana.*

Parasites, Animal, on Skin.—*Local*—Hydrarg. Oleat., Hydrarg. Perchlorid. Lotio and Ung., Hydrarg. Ammon. Ung., Naphthalin Ung., Naphthol Ung., Pyrethri Flores Pulv. and Tinct., Sapo viridis, Staphisagria, Sulphur Baths Lotion and Ung., Sulphurated Lime Lotion.

Parasites, Vegetable, on Skin.—*Local*—Acid. Boric., Acid. Carbolic., Acid. Chrysophanic. Ung., Acid. Sulphuros., Hydrarg. Oleat., Phosphor. Ol., Picrotoxin Pigment., Sodii Hyposulphit. Lotio., Thymol Ung.

Parasites, Intestinal Worms.—Areca (Ascarides and Lumbrici), Cambogia, Ferri Perchlorid. Enema (Ascarides), Filix Mas (Tænia), Hydrarg. Subchlorid., Jalapa, Kamala (Tænia), Kousso (Tænia), Mucuna, Pelletierinæ Sulph. and Tannas (Tænia), Quassiæ Enema (Ascarides), Santonin and Sodii Santonas (Ascarides and Lumbrici), Scammonium, Terebinth. Ol., *Acid. Filicic.* (*Tænia*), *Naphthalin, Papain* (*Ascarides*), *Sethia acuminata, Santoninoxim.*

Peritonitis.—Aconite, Digitalis, Hydrarg. Subchlorid. cum Opio, Opium, Opium and Belladonna, Veratrum Viride, *Antifebrin, Antipyrine, Kairin.*

Perspiration, Excessive.—*Internal*—Acid. Phosph. Dil., Acid. Sulph. Aromat., Atropine and inj. hypod., Belladonna, Ergota, Jaborandi and Pilocarpine, Picrotoxin, Quinine preps.——*Local*—Amyli Pulv., Diachyli Ung., Kaolin, Tannin, Zinci Oleat. Pulv. and cum Thymol., Zinci Oxid., *Abies Canadensis, Naphthol.——Internal—Acid. Agaric., Sulphonal.*

Perspiration, Fetid.—*Local*—Acid. Boric. Lotio. and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Pulv. cum Talco, Aluminii Acet. Lotio, Belladonnæ Linim., Diachyli Ung., Glycerini Plumbi Subacet. Ung., Salicylic Suet, Zinci Oleat. cum Thymol.

Phthisis.—Acid. Lactic. and Lactates, Aconite, Æthyl Iodid., Arsenic, Benzoates, Caffeine, Calcii Chlorid., Calcii Hypophosph. and Phosph., Codeine, Coto, Creasotum, Gynocardiæ Ol. (externally), Iodi Linim. and Vapor, Ipecac. Nebula, Iron Salts, Morrhuæ Ol., Pancreatin, Pepsin, Picrotoxin, Piscidia, Prunus Virginiana, Quinine preps., Salicin, Salicylic Acid and Salicylates, Sodii Hypophosph., Terebenæ Vapor, Verbascum Thapsus, *Acetanilide, Acid. Camphoric., Acid. Hypophosph. and Hypophosphites, Acid. Phenylacetic., Acid. Phenylpropionic., Acid. Tannic., Aniline treatment, Antifebrin, Antipyrine, Aristol, Benzosol, Chlorphenol, Fluoric Acid and Ammonium Fluoride inhalations, Guaiacol and Carbonate, Helenin, Iodopyrin, Lipanin, Menthol spray, Morrhuæ Ol. Emuls., Naphthol cum Camphora, Oxygen, Phenazonum, Potassii Cantharidas, Potassii*

Telluras, Resorcin (Laryngeal), Sodii Hypophosph. Syrup., Sulphuretted Hydrogen treatment, Tuberculin, Tuberculocidin.

Piles.—See **Hæmorrhoids.**

Pityriasis.—*Local*—Acid. Boric. Lotio and Ung., Acid. Chrysophanic. Ung., Boracis Glycerin. and Lotio, Gynocardiæ Ung., Huile de Cade, Picis Ung., Glycerini Plumb. Subacet. Ung.

Pleurisy.—Aconite, Ammon. Acet. Liquor, Antimony, Bryonia, Jaborandi, Lyttæ Empl., Morphine preps., Potass. Iodid., Quinine preps., *Apocynum cannabinum (for Pleuritic effusion), Sodii Salicylas.*

Pleurodynia.—See **Myalgia.**

Pneumonia.—Acid. Salicylic., Aconite, Ammon. Carb., and Chlorid., Antimony, Digitalis, Hyoscyamus, Morphine preps., Quinine preps., Salines, Veratrum viride, *Caffeine, Chloral and Digitalis, Hypophosphites, Oxygen, Sodii Cresotas.*

Post Partum Hæmorrhage.—See **Hæmorrhage.**

Pregnancy, Vomiting of.—Belladonna, Bismuth preps., Cerii Oxalas, Chloroform, Creasote, Hydrocyanic Acid, Ingluvin, Ipecac. Vin., Iridin, Menthol, Morphine preps. and inj. hypod., Nux Vomica, Pepsin, Quinine preps., *Antipyrine, Spt. Nucis Juglandis.*

Prurigo.—*Internal*—Arsenic, Bromides, Iron Salts, Pilocarpine, Quinine preps.——*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Borax, Cocainæ Ceratum, Iodoformi Ung., Pilocarpine, Staphisagria, Sulphur. Ung., Sulph. cum Hydrarg. Ung., Tar, *Ichthyol.*

Pruritus Ani, Vulvæ, &c.—*Local*—Acid. Benzoic., Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Ung., Acid. Sulphuros. Lotio, Alkalies (Lotion of), Alumen, Argent. Nit. Sol., Carbonis Liq. Lotio., Chloroformi Ung., Cocainæ Ceratum, Gallæ cum Opio Ung., Hydrarg. Oleat., and cum Morphinâ, Hydrarg. Subchlorid. Ung. and Lotio Nigra, Glycerini Plumbi Subacet. Ung., Potass. Cyanid. Lotio, Tannin, *Conii Ung., Menthol, Mentholeate, Menthol et Boracis Lotio.*

Psoriasis.—*Internal*—Arsenic preps., Cantharides, Gynocardiæ Ol., Hydrarg. Iodid. Viride, Iron Salts, Morrhuæ Ol., Phosphorus, Quinine preps., Sulphur.——*Local*—Acid. Carbolic. Ung., Acid. Chrysophanic. Ung., Acid. Pyrogallic. Ung., Acid. Salicylic. Ung., Betulæ Pyrolig. Ol., Carbonis Liq. Lotio, Fagi Pyrolig. Ol., Gynocardiæ Ol., Huile de Cade and Ung., Ichthyol, Picis Ung., Rusci Pyrolig. Ol., Sulphides (in Baths), Sulphuris Hypochloritis Ung., *Anthrarobin, Europhen, Gallacetophenone, Hydracetin, Hydroxylamine, Lanoline, Mollin, Naphthol, Levico Water, mild and strong.*

Puerperal Fever.—Acid. Boric, Jaborandi and Pilocarpine, Ferri Perchlorid., Opium, Quinine, Terebinth. Ol., *Antifebrin, Antipyrine.*

Pupil of Eye: to contract and dilate.—See **Eye.**

Purpura.—Acid. Gallic., Acid. Sulphuric. Dil., Ergota, Iron Salts, Phosphorus, Quinine preps., Terebinth. Oleum.

Pyæmia.—Acid. Salicylic, Eucalyptus Globulus, Kairine, Quinine preps., Resorcin, Salicin, Sulphites.

Pyrexia.—See **Fever.**

Pyrosis.—Acid. Hydrocyanic., Acid. Hydrochlor. Dil., Acid. Nit. Dil., Acid. Sulphuros., Bismuth preps., **Carbo Ligni**, Cerii Oxalas, Magnesia, Manganesii Oxid., **Sodii** Bicarb., Sodii Sulphocarbolas.

Quinsy.—See **Throat Inflammation.**

Remittent Fever.—Apiol, Eucalyptus Globulus, **Narcotina**, Quinine and other Cinchona Alkaloids, **Salicin**, Warburg's Tincture.

Rheumatism, Acute.—Acid. Benzoic and **Benzoates**, Acid. Salicylic and Salicylates, Aconite, Actæa and Cimicifugin, Colchicum and Colchicin, Coto and Cotoin, Ferri Perchlorid., Lemon or Lime Juice, Opium, Ozonic Ether, Potass. **Bicarb.** Cit. and Nit., Quinine preps., Salicin, **Trimethylamine**, *Acetanilide, Acid. Cresotic., Antifebrin, Antipyrine, Cresol Salicylas, Euphorin, Methacetin, Phenazonum, Phenocoll Hydrochlor., Salicylamide, Salipyrin, Salol, Salophen, Sodii Cresotas, Sodii Dithio-salicylas.*

Rheumatism, Chronic.—*Internal*—Actæa, Antim. Sulphurat., Arsenic, Cimicifuga, Cinchonidinæ Salicylas, Colchicum, Ferri Iodid. Syr., Ferri Salicylas., Gelsemium, **Guaiacum**, Iodum., Phytolaccin, Podophyllin, Potass. Iodid., and cum Quininâ, Rhus.——*Local*—Atropinæ Linim., Bellad. Linim. and Linim. Co., Camph. Co. Linim., Capsici. Emp. and *Linim.*, Chloral cum Camphor., Eucalyptus Oil., Opii Linim., *Pini* Sylvest. Oleum.——*Internal—Betol, Gaultheriæ Oleum, Ichthyol, Lithii Hippuras, Methylene Blue, Pelletierina, Pilocarpina.—Local—Belladonnæ Chloroformum and Tinct. Ætherea, Capsici Tinct. Ætherea.*

Rheumatoid Arthritis.—Actæa, Arsenic, Colchicum, Ferri Salicylas, Lithii Carb. and Citras., Morrhuæ Ol., Potass. Bromid. and Iodid., Sulphides (Baths of).

Rickets.—Acid. Phosph. Dil., Calcii et Ferri Phosph. Pil., Calcis. Liq. Sacch., Calcii Chlorid., Calcii Phosph., Calcii Lactophosph. Syr., and cum Ferro, Ferri Phosph. Syr., and Comp., Morrhuæ Ol., Ferri Vinum, Wheat Phosphates, Saccharated, *Calcii Hypophosph. Syrup., Liq. Ferri Hypophosph. Comp., Phosphorus.*

Ringworm.—See **Tinea.**

Salivation.—*Internal*—Acid. Hydroch. Dil., Chlorates, Coto. —— *Local*—Acid. Boric., Alumen, Borax, Chlorates, Creasoti Vapor.

Sarcinæ.—Acid. Sulphuros., Calcii Chlorid., Sodii Hyposulphis, Sodii Sulphis, Sodii Salicylas.

Satyriasis.—See **Nymphomania.**

Scabies.—*Local*—Calcis. Sulphurat. Lotio, Hydrarg. Perchlorid. Ung., Naphthalin Ung., Naphthol Ung., Potass. Sulphurat. Balnea, Styracis Ung., Sulphur. Ung., Sapo Viridis, *Creolin, Mollin.*

Scalds.—See **Burns.**

Scarlatina.—Acid. Salicylic., Aconite, Ammon. Carb., Belladonna, Ozonic Ether, Potassii or Sodii Chloras, *Crotalus, Eucalypti Tinct.*

Sciatica.—*Internal*—Actæa and Cimicifugin, Atropine, Colchicum and Colchicin, Croton Ol., Lithii Citras, Morphinæ inj. hypod., Potass. Iodid., Tereb. Ol.——*Local*—Aconitinæ Ung., Bellad. Linim., Chloroform Linim., Menthol, Menthol cum Camphorâ, Menthol Linim., Veratrinæ Ung., *Æther injection, Methyl Chloridum.——Internal—Acetanilide, Antifebrin, Antipyrine, Phenazone, Potassii Osmias, Salipyrin, Salol, Sodii Salicylas.*

Scrofula.—Calcii Phosph., Calcii Sulphid., Calcii Chlorid., Ferri et Calcii Phosph. Pil., Ferri Iodid. Syr., Ferri Phosph., Hydrarg. Iodid. Virid., Iodum., Iodoform., Morrhuæ Ol., Quinine preps., Rumicin, *Morrhuæ Ol. Emuls.*

Scurvy.—Lime Juice, Lemon Juice, Phosphorus, Potass. Chloras and Citras, Sassafras.

Sea-Sickness.—Amyl Nitris, Chloral Hydras, Chloroform., and Tinct. Co., Cocainæ Hydrochloras, Morphinæ inj. hypod., Nitroglycerine Tablets ($\frac{1}{100}$ gr.), Potass. Bromid., Sodii Bromid., Sodii Nitris, *Antipyrine, Chlorobrom, Cocaine tablets and solutions, Eucalypti Troch., Hyoscyamina, Phenazone, Resorcin.——Local—Icebags.*

Shingles.—See **Herpes Zoster.**

Sleeplessness.—See **Insomnia.**

Snake-bite.—See **Bites and Stings.**

Spasm.—Aconite, Æther, Ammon. Arom. Spt., Amyl Nitris, Atropina. inj. hypod., Cajuput. Ol., Camphora, and Camphor. Spt. Fort., Chloroform, and inhaled, Chloromorphiæ Liq., Conina, Menth. Pip. Ol., Opium, Piscidia.

Spina Bifida.—*Local*—Iod. Linim., Iodo-Glycerine inject.

Stomatitis.—*Internal*—Eucalypti Globuli Tinct. Hydrastis, *Potassii* Chloras, Sodii Chloras.——*Local*—Acid. Boric., Acid. Carbolic., Acid. Salicylic., Acid. Sulphuros, Alumen, Borac. Glyc. and Mel., Calcis Aqua, Cupri Sulph., Myrrhæ et Boracis Tinct., Sodii Chloras.—See *Pastils.*

Sunstroke.—Apomorphina, Atropinæ inj. hypod., Enemata purgative, Morphinæ inj. hypod., Quinine, Sinapis Emplast.

Syphilis, Constitutional.—*Internal*—Ammon. Iodid., Amyli Iodid., Ferri Iodid. Syrup, Hydrarg. cum Cretâ, Hydrarg. Cyanid. Pil., Hydrarg. Iodid. Rub. and inj. hypod. Hydrarg. Iodid. Viride, Hydrarg. Perchlorid., Hydrarg. Pil. Hydrarg. Subchlorid., Hydrarg. Tannas, Iodum, Phytolacca, Potass. Iodid., Sarsa, Sodii Iodid., Stillingia, *Auri Chlorid., Condurango, Manaca, Hydrargyri Benzoas Carbolas Salicylas Succinimidum and Thymolacetas, Hydrarg. et Potass. Iodid., Siegesbeckia orientalis, Succus alterans, Syrupus Acidi Hydriodici.——Local*—Hydrarg. Oleat. and cum Morphinâ, Hydrarg. Ung., *"Grey Oil" inject., Hydrargyri, Lanolinum, Hydrarg. Oxid. inject. with Asparagin and Formamide.*

Syphilis, Skin Diseases.—*Local*—Hydrarg. Ammon. Ung., Hydrarg. Emplast., Hydrarg. Nit. Ung., Hydrarg. Oleat., Hydrarg. Perchlorid. Ung., Hydrarg. Subchlorid. Balnea Fumigation and Ung., Hydrarg. Ung. Iodoformi Gossypium and Ung., Pix Liquida, Resorcin, *Europhen, Sozoiodol.*

Syphilitic Sore Throat.—Alum. Garg., Borax Garg. and Mel Boracis, Hydrarg. Cyanid. Garg., Hydrarg. Perchlorid. et Potass. Chlorat. Pastil., Hydrarg. Perchlorid. Garg., Iodoformi Insufflatio and Pastil., Potass. Chlorat Garg. Pastil. and Troch., Sodii Chloras Garg. and Troch., *Insufflatio Iodoformi Comp.*

Syphilitic Ulcers.—*Local*—Amyli Iodid Pasta, Hydrarg. Acid. Nit. Liq., Hydrarg. Oleat. and cum Morphinâ, Hydrarg. Flava and Nig. Lotio, Hydrarg. Subchlorid., Iodoform and Collodium cum Iodoformo, Iodoform Wool, Iodoformi Ung., Resorcin, Zinci Chlorid. Iodid. and Nitras. *Acid. Chromic., Aristol, Cinchoninæ Iodomercuras and Iodosulphas, Euphorin, Europhen, Collod. Salicylic. c. Hydrarg. Perchlor., Iodol, Hydrarg. Naphthol, Thio-resorcin, and Di-iodo-thio-resorcin.*

Tænia.—See **Parasites, Intestinal.**

Tetanus.—Amyl Nitris, Cannabis, Chloral Hydras, Conine Curara, Gelsemium, Morphine, Nicotine, Opium, Pelletierine, Physostigma and Physostigmine, *Acid. Carbolic., Coninæ, Hydrobromas, Hydrogen Peroxide, Pilocarpina, Strophanthus, Urethane.*

Thirst, to Relieve.—Acid. Citric., Acid. Phosph. Dil., Acid. Sulph. Aromat., Acid. Tartaric., Coca, Elixir Acid., Potass. Tart. Acida.

Throat, Inflammation of, and Tonsillitis—*Internal*—Acid. Salicylic., Aconiti Tinct. and Pastil, Antimony, Belladonna, Ferri Salicylas, Quininæ Salicylas.——*Local*—Benzoin. Tinct. Vapor, Iodi Vapor, Juniperi Ol. Vapor, Chlorates in Pastil and Troch., Lupulin Vapor.——*Internal*—*Antifebrin, Antipyrine, Cocaine, Pigment of, Salicylates, Sodii Benzoas.*

Throat, Relaxed Sore.—*Local*—Acid. Carbolic. Pastil. and Vapor, Acid. Hydroch. Dil., Acid. Tannic Garg. and Glycerin., Alumen and Glyc. Aluminis, Argent. Nit., Benzoin. Tinct. Vapor, Bismuth. Pastil., Catechu Insuffl., Eucalyptus Gum Insuffl., Ferri Perchlorid. Pigment., Ferro-Alumen, Guaiaci Troch., Pini Sylvest. Vapor, Uranii Nitras, *Ammonii Chloridi Vapor, Geranium maculatum, Hydrastis as gargle.*

Thrush.—See **Aphthæ.**

Tinea Favosa, and Sycosis.—*Local*—Acid. Carbolic. Glycerin., Chrysarobinum, Acid. Sulphuros., Anacardium, Cupri Oleat. Ung., Hydrarg. Oleat., Hydrarg. Perchlorid. Lotio., Iodi Linim., Menthol, Picrotoxin Pigment, Sodii Hyposulph. Lotio, *Ichthyol, Lanoline.*

Tinea Tarsi.—See **Ophthalmia Tarsi.**

Tinea Tonsurans.—*Local*—As for **T. Favosa** and—Cantharid. Pigment, Hydrarg. Nit. Acid. Ung., Iodi et Olei Picis Pigment., Iodized Phenol, *Siegesbeckia orientalis, Coster's Paste, Hydronaphthol Plaster.*

Tinea Versicolor.—*Local*—Acid. Chrysophanic., Acid. Sulphuros., Borac. Glycerin., Lotio Calcii Sulphurati, Gynocard. Ol., Sodii Hyposulph. Lotio.

Toothache. — *Internal*—Acid. Hydrobromic, Butyl-Chloral Hydras, Gelsemium, Gelseminæ Hydroch., Gelsemin., Morphinæ inj. hypod., Piscidiæ Ext. Fluid., Quin. Tinct. Ammon. ——*Local*—Acid. Arsenios., Acid. Carbolic., Butyl-Chloral cum Menthol, Caryophyll. Ol., Chloroform. cum Camph., Chloroform. cum Mastic., Cocaina, Creasotum, Iodi et Aconiti Tinct., Opii Tinct., Pyrethri Tinct., *Eugenol, Phenol-sodique, Potassii Permanganas.*

Trichinosis.—Ergota, Ergotin, Sclerotic Acid, *Liquor Arsenicalis.*

Tuberculosis.—See **Phthisis.**

Typhoid Fever.—Acid. Salicylic. and Salicylates, Ammon. Carb., Cinchona Alkaloids, Ergota (for Intestinal Hæmorrhage), Eucalyptus Globulus, Kairine, Sodii Chloras, *Acid. Lactic., Bromol, Cupri Arsenis, Hydrarg. Naphthol-acetas, Hydrogen Peroxide, Iodopyrin, Naphthalene, Naphthol, Thallin, Thymol, Tribromophenol.*

Typhus Fever.—Antimony, Ammon. Carb., Belladonna, Cinchona Alkaloids, Eucalyptus Globulus, Hydrastis, Kairine.

Ulcers.—*Local*—Acid. Boric. Lotio and Ung., Acid. Carbolic. Lotio and Ung., Acid. Salicylic. Gossypium and Ung., Argent. Nit., Belladonnæ Glycerin., Carbonis Cataplasm, Chartazinc, Collodium, Cupri Oleat. Ung., Eucalypti Ung., Fermenti Cataplasm., Hydrogen Peroxid., Plumbi Subacet. Glycerin. and Ung., Potass. Permang., Resinæ Ung., and Res. Ung. cum Chlorof., Sanitas, Styptic Colloid, Zinci Chlorid., Zinci Oleat. Ung., Zinci Sulph. Lotio, *Bismuthi Oxyiodid., Eucalembroth gauze, Eucalyptus Sawdust, Galium aparine, Iodol, Lanoline, Naphthalin, Papain, Resorcin, Salol.*

Urine, Incontinence of.—See **Incontinence.**

Urine, Tests for Albumen.—Acidulated Brine solution; Millon's test; Picric Acid; Sodium Tungstate; Ferrocyanic Acid Pellets; Iodo-mercurate of Potassium papers; *Trichloracetic Acid.*

Urine, Tests for Sugar.—Ammoniated cupric test of Pavy, Cupric Pellets, Fehling's solution, and glass capsules of; Indigo-carmine papers; Phenyl-hydrazine Hydrochlorate.

Uræmia.—Amyl Nitris, Caffeine, Digitalis, Elaterin. Pulv. Co., Jaborandi and Pilocarpine, Jalapæ Pulvis Co., Nitroglycerine, Scilla, Scoparii Succus, *Apocynum Cannabinum, Lithii Hippuras, Potassii Cobalto-nitris, Sodii Benzoas.*

Urticaria.—*Internal*—Apis Mellificæ Tinct., Bromides, Mistura Alba, Sodii Bicarb.——*Local*—Acid. Benzoic. Lotio, Acid. Boric. Lotio, Acid. Carbolic. Lotio, Acid. Hydrocyanic. Dil. Lotio, Chloroform. Ung., Cocainæ Ceratum, Plumbi cum Lacte Lotio, Sodii Carb. Balnea.——*Internal—Antipyrine.*

Uterus, Catarrh of.—See **Catarrh, Uterine.**

Uterus, To cause Contraction of.—Borax, Caulophyllin, Cimicifuga, Ergota, Ergotin, Ergotinine, Gossypii Rad. Cortex., Hamamelis. Sclerotic Acid, *Hydrastis, Ustilago Maidis.*

Variola, To prevent Pitting.—Acid. Boric. Ung., Acid. Carbolic. Ol., Amyli Glyc., Argent Nit., Calcis Linim., Collodium, Hydrarg. Ung., Styptic Colloid., Zinci Oleat. Ung.

Vertigo.—Caffeine, Guarana, Quininæ Valerian., Quinine, Ammon. Spt. Arom., Strychnine, Zinci Valerianas.

Vomiting.—Acid. Carbolic, Acid. Carbonic., Acid. Hydrocyanic. Dil., Beef Essence (Brand's), Belladonna, Bismuth

Preps., Calcii Chlorid., Calcis Aqua, Cerii Oxalas, Chloral, Chloroform preps., Ingluvin, Ipecacuanha, Liquor Sodæ Effervescens, Magnes. Carb. Liq., Morphinæ inj. hypod., Nitroglycerine, Nux Vomica, Potass. Bicarb. cum Acid. Citric. Mist. Efferves., Sodii Phosph. Effervescens, *Berberina, Coca and Cocaina.*

Warts and Corns.—*Local*—Acid. Acetic. Glaciale, Acid. Carbolic., Acid. Chromic., Acid. Nit., Boroglyceride, Collodium Salicylicum, Collodium Callosum, Anacardium, Argent. Nit., Iodi Linim., Papayotin, Potassæ Liquor, Thuja, *Collodium Salicylicum c. Acid. Lactic.*

Whooping-Cough.—Acid. Benzoic. and Benzoates, Acid. Hydrocyanic. Dil., Alumen, Amyl Nitris, Atropine, Belladonna, Bromides, Bryonia, Calcis Aqua, Camphora Monobrom., Cannabis, Chloral, Conium, Ergot, Gelsemium, Grindelia, Himrod's Cure, Lobelia, Narceina, Opium, Ozonic Ether, Potass. Carb., Senega, Succini. Ol. (external), Stramonium, Zinci Oxid. and Sulphas.——*Internal*—*Acid. Carbolic. Glyc., Antipyrine, Apomorphinæ Hydrochloras (minute doses), Benzol, Bromoform, Naphthalene, Ouabaïn, Phenacetin, Phenazonum, Rubidium-Ammonium Bromide.*—*Inhalation.*—*Acid. Fluoric., Naphthalene.*

Worms.—See **Parasites, Intestinal.**

Wounds.—*Local*—Acid. Benzoic. Lotio, Acid. Boric. Lotio and Ung., Acid Carbolic. Carbasus Lotio and Ung., Acid. Salicylic. Lotio and Ung., Aluminii Acet. Lotio, Arnica, Benzoin. Tinct., Calendula, Camphora Salicylata and Gossypium, Chartasine, Collodium, Eucalypti Carbasus and Ung., Hydrarg. Perchlor. Lotio, Iodoform, Iodoform Wool and Ung., Kaolin Ung., Petrolei Cerat., Plumbi Subacet. cum Petroleo Ung., Potass. Permang., Resorcin, Styptic Colloid, Thymol Lotio, Zinci Chlorid., Zinci Sulphatis Lotio, *Alembroth gauze, Aristol, Dermatol, Europhen, Emplastrum Lithii-Ichthyol, Eucalembroth gauze, Hydrargyri Naphthol-acetas, Hydronaphthol, Iodoformi Emuls., Iodol, Lanoline, Mercuro-Zinc Cyanide and Gauze, Microcidine, Naphthalene, Naphthol-Camphor, Pyoktanin, Salol, Sanitary Wood Wool Wadding, Sodii Fluo-silicas, Sozoiodol, Sphagnum, Sublimate Lotiforms, Sulphaminol, Thio-resorcin, Zinci Sulphis.*

Yellow Fever.—Antifebrin, Antipyrine, Cinchonine, Kairine, Jaborandi, Pilocarpine, Piperina, Quinina, Warburg's Tincture.

Zoster.—See **Herpes.**

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